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ORIGINAL COMMUNICATIONS.

SIX MAXIMS REGARDING THE TREATMENT OF FOREIGN BODIES IN THE AIR-PASSAGES.

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1. **A** PERSON with a foreign body in the air-passages should never be left without medical care.

2. Medicinal treatment is in most cases insufficient; emetics are dangerous.

3. Expert laryngoscopical procedure for removal should be had whenever possible.

4. Prophylactic tracheotomy should be performed at the slightest indication, in every case in which immediate removal is impossible.

5. Procedures dangerous and often unsuccessful before tracheotomy can, if need be, safely be resorted to, and with increased chances of success, after.

6. For impacted foreign bodies which cannot be removed *per vias naturales*, if not lower down than the superior laryngeal cavity, "subhyoidean pharyngotomy," and if lower down, either high or low tracheotomy, instead of thyrotomy, are the preferable operations for extraction.

1. Although recovery from the effects of a foreign body in the air-passages has taken place, even though the person received no attention at all, yet such a person is always, and for a long time, in a dangerous condition. I personally know a sea-captain who, while transferring grain at Constantinople, got a large ear of corn in his air-passages. It troubled him a great deal at the time, and for years afterward his breathing was interfered with, and he coughed; but he consulted no physician, and was unable to take any special care of himself. Nevertheless his health was not seriously affected, though he suffered from time to time with dyspnoea and purulent expectoration. Nine years later he coughed up the offending body, which I have now in my possession. It is nearly two inches long. Immediately after its expulsion, and for a few weeks, he suffered more than he had since the accident, but he recovered without medication of any kind, and when

I examined him three years afterward, his lungs and whole respiratory tract were perfectly healthy. Similar, and still more remarkable, cases have been related, but such a fortunate recovery is certainly very rare, and must not lead us to think lightly of any accident of the kind. No such case should be left to nature. Of course the prognosis, as well as the symptoms, vary with the nature, the size, and the peculiarities of the foreign body; but even if the latter produce at the time when we see the patient very little disturbance either locally or in the general condition, it is of grave import as long as it remains in the air-passages. Nor is the patient after its removal immediately safe, on account of the disease which it may have set up. Death or serious illness has occurred from the injury sustained by the sojourn of a foreign body, even though spontaneously expelled or extracted by operation, long after its removal. At all events, it is the physician's duty to pay every possible attention to the health of a person in whose air-passages a foreign body has been lodged. Let me quote a paragraph from our own Prof. Gross, the author of the best work on the subject* ever written,—a work which, though long out of print, will probably never be obsolete or surpassed. "An individual who has a foreign body in his windpipe should be regarded as an invalid, unfit to leave his room, or to attend to business. The treatment in the early stage of the complaint should be limited to a general supervision of the patient's health: that is, his diet should be carefully regulated, the bowels should be moved from time to time with mild purgatives, and the utmost attention should be paid to the temperature of the apartment, which should be uniformly maintained at about 68° of Fahrenheit. The chest should be thoroughly examined at least once a day by auscultation and percussion, to ascertain the condition of the lungs and bronchial tubes. Cough should be subdued by mild expectorants, containing, if there be frequent spasms, a suitable quantity of morphia. Should symptoms of pneumonia, bronchitis, or pleuro-pneumonia supervene, they must be promptly met by the ordinary remedies, particularly the lancet, active purgatives,

* Treatise on Foreign Bodies in the Air-Passages. Philadelphia, 1854.

and tartar-emetic, aided, if necessary, by leeches and blisters. By watching the patient in this way, the respiratory organs may be protected from mischief, and the extraneous substance be expelled spontaneously; or, should an operation become necessary, he will be in a much better condition to undergo it with impunity."* I would hesitate to follow the precepts of my revered teacher in regard to the lancet and tartar-emetic; *in every case my third maxim must nowadays not be lost sight of, nor the repeated chest-examination omitted*, and in every other respect Dr. Gross's injunctions should be thoroughly carried out.

2. Expulsion of the foreign body, especially if it be smooth and rounded, as, for instance, a bean, has followed the use of emetics; but experience has so frequently proved their danger that they should be administered in no case without great caution. During the act of vomiting and retching the larynx is compressed; sharp bodies may become firmly impacted in it, and alarming or even fatal spasm of the glottis, or fatal closure of the rima by the presence of the body, may occur; most frequently emetics are useless, if not worse than useless. Errhines are less dangerous, but generally still more useless; they succeeded, however, in the case of Boyer, in which the nose was tickled with snuff while the patient was partially asleep. Prof. Gross has suggested their use in conjunction with chloroform, *i.e.*, at the moment of partial insensibility, or when the patient begins to regain consciousness: "Should sneezing ensue while he is in this condition, with the air-tubes in a state of perfect relaxation, it is easy to conceive that the foreign body might be ejected. Nature would be taken, as it were, by surprise, as she has sometimes been by a dream, as in the remarkable case which happened to Mr. Cock, of London. A very interesting case, in which a piece of fish-bone was expelled from the windpipe under the influence of the inhalation of iodine, occurred in 1832; in the practice of Mr. Day, of England." Not only stimulating medicines, but so-called lubricants, such as oils and syrups, have been given; but medicinal treatment alone must not be relied upon if the foreign body is not speedily coughed out.

3. The laryngoscope has enabled us nowadays to do more wonderful things

in the way of extracting foreign bodies from the air-passages than were ever thought of by the celebrated older surgeons of Europe and this country, whose brilliant pre-laryngoscopic operations we might otherwise not dare hope to approach, much less to surpass. I have removed thread, pin, needle, nut-shell, fruit-stone, seeds, peas, beans, bones, buttons, coins, artificial teeth, etc., especially from the pyriform sinuses and upper laryngeal cavity, which would have been utterly impossible without the laryngoscope. I could fill page after page with the recital of what has been accomplished in this respect in the different parts of the world during the last twenty years. The corollary is that every physician who is liable to be called upon to treat a case of foreign body in the air-passages—and are there many physicians who are not?—ought to familiarize himself with the employment of the laryngoscope; but if he is not sufficiently familiar with it, it is his bounden duty to send the patient to an expert laryngoscopist, if such a one be accessible. I have been informed that recently a man in this city was "given up to die" from laryngeal consumption, though no laryngoscopical examination had been made, who got well after coughing up a tooth which had dropped into, and had become impacted in, the larynx while the patient was under anaesthesia during the removal of several teeth some months before. Local anaesthesia, produced by applying morphine and chloroform directly to the parts, has aided in the laryngoscopical removal of foreign bodies from the upper air-passages in several instances; in others, general anaesthesia.

4. In every case of threatened suffocation from obstruction by the foreign body in the upper air-passages, in which, on account of either the patient's condition, the physician's want of expertness, or the nature and seat of the foreign body, immediate or laryngoscopical removal is impossible, tracheotomy ought to be performed *without any unnecessary delay*. I insist upon this because I know of two clear instances in which apparently justifiable postponement cost the patient's life. When the correct diagnosis has been made, there can be no question of a contra-indication, unless, indeed, the lungs or the patient's general strength be already too seriously affected for any interference. The first attacks of suffocation from the ingress of the foreign

* System of Surgery, vol. ii.: Treatment of Foreign Bodies.

body are frequently followed by a period of calm and comparatively easy respiration. The physician seeing the patient during this period may be misled as to the gravity of the case. But while the foreign body is in the air-passages the calm is deceptive, of but short duration, and should not be considered as a contra-indication to prophylactic tracheotomy.

If the foreign body is seated below the point where the windpipe can be opened, the operation of tracheotomy, even though not performed as a direct prophylactic measure, *i.e.*, to prevent immediate asphyxia, must be done for the purpose of facilitating the removal of the offending substance; and although it has exceptionally happened that a movable foreign body in the trachea has, after tracheotomy, become tightly wedged into a smaller tube, yet, as a rule, the operation is not only successful prophylactically, but itself often acts, no matter whether the foreign body is seated above or below the opening, as a curative measure. Most surgeons say that a tracheotomy performed *lege artis* in a healthy individual is a simple and undangerous operation; now, I do not regard, from any point of view, the cutting open of the windpipe as perfectly harmless, but I am willing to admit with Guyon that untoward results following it, under the circumstances I am considering, are more often than to the operation itself due to—"1, the conditions under which it is performed, above all, anterior accidents, such as asphyxia, more or less marked, and of a longer or shorter duration, before the operation, pulmonary lesions, etc., and, 2, non-expulsion or difficult expulsion of the foreign body afterward. At all events, tracheotomy, whenever necessary to prevent asphyxia, must be performed under all conditions, and always as soon as possible. The more desperate the case, the less should we refuse the patient his only chance for life; and every physician worthy of the name must be ready in an emergency to perform the operation, whether he calls himself a surgeon or not." For immediate prophylaxis, instead of tracheotomy, the more easy and less dangerous operation of "interthyrocrico-laryngotomy," *i.e.*, the cutting (and introducing a tube through) the thyrocricoid membrane, may be performed in appropriate cases, and under pressing circumstances, with one properly-directed plunge into the larynx, though, as a rule, the air-

passages should not be incised at any place without having first dissected overlying structures, thoroughly laying it bare, and all bleeding having been stopped.

5. Slapping a person with a foreign body in his air-passages on the back, or in front of the chest, is the common procedure to produce ejection, and, when not successful alone, is combined with inclined position, either complete inversion of the body or at least the head down, with the body prone on a bench, an inclined plane, etc., either on the belly or the back, according to the circumstances of the case. Compression of the chest by bandage has been used as an auxiliary means for enabling the expiratory current to eject the foreign body. The slap is given at the same time that the patient, after a deep inspiration, coughs or rapidly empties his lungs. Such manœuvres are sometimes successful, especially when the size, form, and weight of the foreign body are favorable for ejection, but they are always dangerous without tracheotomy, on account of the possibility of the occurrence of glottic spasm: instruments should therefore always be at hand to open the windpipe in case serious dyspncea occurs. I may mention Dr. Padley's method, in which, in addition to the inversion of the body during inspiration, the supine position favors the exit of the foreign body, through the broad end of the triangular rima glottidis being below. The method is the following. A strong bench having been fixed, with the legs of one end on a couch and the others on the floor, the patient is made to sit on the upper part of it, with his knees fixed over the end. He is then directed to lie back upon the inclined plane. The great advantage of this position is that it enables the patient by his own effort to regain the upright position by using his knees as a fulcrum, and thus diminishes the danger if spasm supervenes.

All of the procedures which I have mentioned as being dangerous on account of being liable to cause spasm of the glottis, lose this element of danger when tracheotomy has been performed. The chances of success of some of them are very much increased by the operation; other procedures for extraction it is impossible to carry out except after tracheotomy. I have explained why I am opposed to giving emetics in cases of foreign bodies in the air-passages; but after the windpipe has been opened they can be safely resorted to,

if otherwise indicated. The best emetic under these circumstances is that recommended by Riegel, in Ziemssen's Cyclo-pædia, viz., apomorphine applied hypodermically; but any quickly-acting emetic may be employed.

The finger is an exceedingly useful means for both recognition and extraction of foreign bodies in the air-passages. Both before and after tracheotomy it has in many cases served a better purpose than any additional instrument could have done. Altogether it is wonderful, and must be tried to be fully realized, how far into the air-passages an expert's finger can occasionally penetrate. *Exploration with the finger should in no appropriate case be omitted.* We can always assure ourselves by means of it that the epiglottis is not pressed down upon the air-passage, and that the way is clear to the laryngeal aperture. After tracheotomy, the finger introduced into the wound may push a foreign body upward into the mouth; it may, as first pointed out by Sands, of New York, reach downward to the bifurcation.

Favier's well-known experiment proved that substances of every kind and of every shape introduced into the trachea of living dogs were forcibly expelled after the operation of tracheotomy, no matter whether the animal was lying down or standing up, or under what circumstances the experiment was performed; and all surgical experience teaches that in the human subject spontaneous expulsion of an unimpacted foreign body in the air-passages follows the operation as a rule. If it does not do so immediately, it does frequently in a subsequent fit of coughing. Sometimes the foreign body is found without any one's knowing when or how it was expelled, sometimes it presents itself at the lips of the wound, sometimes it comes into the mouth or passes down the cesophagus, and either of these things may not happen until after the lapse of a day or two. If it becomes necessary to aid in the expulsion, turning the patient upon his face and striking his chest or back with the hand, blowing into the wound so as to compress the air within the trachea that it may gather expulsive force in the coughing which follows, aspiration with or without catheter, as well as induction of vomiting by apomorphine, are recommended. As a tube might interfere with the expulsion, it is best to keep the edges of the wound

apart by a double blunt hook, or two hair-pins properly bent, or some other contrivance for retraction, covered only by a piece of gauze, and especially to hold the wound open during the coughing and suffocating efforts.

6. In the case of a foreign body seated in the air-passage *above* a point where it may be opened, tracheotomy may be indispensable for the purpose of giving air access to the lungs, to prevent asphyxia, or, in the case of a movable foreign body lower down, to prevent fatal spasm of the glottis by upward movement. This is what I call prophylactic tracheotomy, and, in accordance with my fourth maxim, it should be performed at the slightest indication in every case in which laryngoscopical or other removal is impossible. In other cases, especially chronic cases, immediate suffocation may not be threatened, but a cutting operation be indicated, because access must be obtained to the parts in order to remove the foreign body; or a prophylactic tracheotomy may already have been performed, but spontaneous expulsion may not have occurred, and aspiration, and every other safe attempt, even instrumental, at extraction, by way of the tracheotomy wound, may have failed, and a further operation be necessary. In these cases the precise place of operating is a matter of choice. The only rule for selection that has hitherto been given is to operate at the nearest possible point to the body to be extracted. This, though very good for a general direction, is not a definite guide for special cases, and sometimes cannot be followed with safety or satisfaction: for instance, I object to the advice to divide the thyroid cartilage in every case in which the body is impacted in one of the ventricles of the larynx, because sometimes a much more advisable operation may be successful, etc. I have therefore formulated my opinion in my sixth maxim, viz., that the preferable operation for extraction of impacted foreign bodies which are not lower down than the superior laryngeal cavity is subhyoidean pharyngotomy, and for those lower down, tracheotomy, either high, *i.e.*, crico-tracheotomy, or low, *i.e.*, tracheotomy below the thyroid body. Both high and low tracheotomy are well enough known, but I desire to say here a few words on the subject of subhyoidean pharyngotomy. This operation has not as yet been performed very often, and is by many misapprehended.

I described it in 1864,* at a time when the account of but a single case had been published; it had, however, been previously described and highly recommended. Since then I have performed it three times: once for the removal of a morbid growth, and twice for that of impacted foreign bodies. It differs from what may be called "suprathyroid laryngotomy" by opening the air-passage above the free border of the epiglottis, as originally directed, though never performed, by Malgaigne, but is often confounded with this operation, which was first recommended, but also never performed, by Vidal de Cassis, and called subhyoidean laryngotomy or thyro-hyoïd laryngotomy. Subhyoidean pharyngotomy was first practically tested by Prat, in 1859, who successfully removed by its aid a fibroid tumor from the back of the epiglottis; while suprathyroid laryngotomy, severing the epiglottis from the thyroid cartilage, was first successfully performed by Follin, in 1863, for the extirpation of a number of polypi situated on the mucous membrane covering the upper anterior surface of the arytenoid cartilages.

Of two very able operators in this city, curiously enough, Dr. George M. Lefferts (*New York Medical Record*, Dec. 15, 1874), who performed subhyoidean pharyngotomy for the removal of a brass ring from the larynx, entitles his report "Removal by Subhyoidean Laryngotomy," while Dr. Clinton Wagner (*New York Medical Record*, May 21, 1881), who performed suprathyroid laryngotomy for the removal of the epiglottis, entitles his operation "Subhyoidean Pharyngotomy." Subhyoidean pharyngotomy consists in an incision along and parallel to the lower edge of the hyoid bone, through the skin and subcutaneous tissue, the fascia and fibres of the platysma myoides, the inner portion of the sterno-hyoïd and hyo-thyroid muscles, the hyo-thyroid membrane, and the mucous membrane between the root of the tongue and the epiglottis. The superficial incisions are made longer than the deep, so that the wound may taper down, for instance, from five or six centimetres to about three centimetres. Though usually no important vessels are encountered, larger branchlets should be ligatured or twisted. Care must be taken not to cut the epiglottis; the occurrence of

such an accident would frustrate the object of the operation; the inspection of the larynx would be impossible, and the wound far more serious than the operation otherwise is. Careful palpation of the hyoid bone outside, and the insertion of the finger—as far down as possible—through the mouth, will, in most cases, approximately at least, determine the relative positions of the tongue and epiglottis. Before incising the mucous membrane, not only should these relative positions be ascertained, but, by means of a tenaculum embedded in the areolar adipose cushion of the epiglottis, the latter must be forcibly pulled downward, and, if this be not sufficient, the hyoid bone must be pulled upward, so that the epiglottis may escape section. In the most recent case in which I performed the operation, I successfully followed the plan of Lefferts, who says, "To insure still further certainty, a small incision was made into the left lateral projecting fold of mucous membrane, and a director was passed inward, and then directly across, coming out at a corresponding point upon the opposite side of the wound, and through the projecting mucous membrane at that point. It should therefore lie in the groove or furrow between the base of the tongue and the epiglottis; and a digital exploration by the mouth confirmed the point. Nothing now remained in order to complete the operation but to incise the tissues lying over the director. This was done, the direction of the knife being upward and backward, and the pharynx was opened." On seizing the epiglottis and turning it forward or drawing it out of the wound, there is nothing to prevent our inspecting, or operating in, the larynx.

Semeleider has suggested that if the incision be made at one side instead of in the middle, although it would become more difficult to avoid injuring the superior laryngeal artery and nerve, an incision only one to one and one-fourth inches long would give us a very good view of the ventricular fold and vocal band of the opposite side, and allow of the introduction of instruments for surgical purposes.

The final object in view being the extraction of an impacted foreign body, no matter what operation or operations may already have been performed, *i.e.*, *first*, prophylactic tracheotomy, and, *secondly*, subhyoidean pharyngotomy or high or low tracheotomy, what remains to be done

* See prize essay on Laryngoscopic Surgery illustrated in the Treatment of Morbid Growths within the Larynx. Philadelphia, 1866, p. 15, *et seq.*

may test to no inconsiderable extent the skill, ingenuity, and fertility of resource of the operator. Of the three steps of the entire operation here indicated, the first, *i.e.*, prophylactic tracheotomy, or, as the case may be, prophylactic interthyrocricoid laryngotomy, may, especially in a chronic case, have been taken long before the other two, or it may immediately precede them, in order to maintain uniform respiration during their performance or expected difficulty afterward; the second step, *i.e.*, the gaining access to the impacted foreign body, and the third, *i.e.*, the extraction, must usually follow each other immediately. Whether pharyngotomy or laryngotomy be performed, it is desirable to have the opening made large enough for further procedure. If, after the operation, the foreign body is not in view, and the precise point of its impaction not known, the finger or a probe or searcher must be used. I have already referred to the fact that very much can be done with the finger, and almost any instrument applicable for extraction may first be used as a searcher. It has been suggested that all instruments ought to be warmed before introduction, as then being less likely to cause spasm than if cold. In exceptional cases the nature of the foreign body may be such, or it may be so firmly embedded in the tissues, that some of the latter may have to be cut, or the foreign body be fractured, before it can be extracted. The various instruments for removal are either of the nature of forceps for directly grasping the body, or of probes with a blunt hook or projecting knob at the end, which is to be pushed past the body and then drawn upon to dislodge it. Stout copper or other flexible wire has several times done good service, bent to suit the case. The number of forceps, different in length, thickness, shape, and mechanism, that have been devised and profitably used in one case or another is legion. For most cases the ordinary nasal, pharyngeal, and laryngeal polyp-forceps are sufficient.

In conclusion, I desire to reiterate the propositions: 1, that every physician ought to acquire a sufficient degree of practical familiarity with the use of the laryngoscope to apply it in cases of foreign body in the air-passages; and, 2, that every physician, whether he be a general practitioner or a specialist in any department of medicine or surgery, ought to be prepared and

willing to perform tracheotomy in every urgent case.

THE PATHOGENESIS OF SECONDARY TUMORS.*

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IN the present paper I give an account of a series of experiments which bear an important relation to the subject of the "Pathogenesis of Tumors." The work was done in the pathological laboratory of the University of Pennsylvania, and at the suggestion of my teacher in histology, Dr. H. F. Formad.

Some of the results of my work have already been announced by Dr. Formad, in his paper on the "Etiology of Tumors," read before the Pathological Society of Philadelphia, April 28, 1881.

While engaged in the study of normal and pathological histology, I, like other students in morphology, was impressed by the similarity which the microscope revealed as existing between normal and pathological tissues, namely, the similarity of the cellular constituents of normal tissues and morbid growths. This likeness in constituent elements suggested an analogous mode of development; I therefore assumed that as the normal tissues grow by virtue of the innate cell-activity which characterizes the cell-components of the tissues, pathological tissues develop after a similar process.

When particles of tumors are carried by the lymphatics, they become arrested in the glands, and there usually give rise to secondary growths. This is supposed to be the case with the carcinomata.

* Inaugural thesis to which the alumni prize was awarded at the commencement of the Medical Department of the University of Pennsylvania, 1882.

In the *Medical Record* for January 14, 1882, will be found an abstract from certain experimental work performed by Dr. M. T. Prudden, of New York. This work, on the subject of "The Origin of the Pus-Cell in Acute Inflammation," was published in full in the *American Journal of the Medical Sciences*, October, 1881.

Dr. Prudden discovered that adult cartilage transplanted may not only not be absorbed, but may continue to grow. In the *Medical Record* this result is given, and an application of it is made to Cohnheim's embryonal theory of tumors; also a comparison is instituted between the experiments of Dr. Prudden and those of Leopold, which latter were published in *Virchow's Archives*, August, 1881. But what the *Record* claims for Dr. Prudden was published as my work, six months prior, in the *Proceedings of the Pathological Society of Philadelphia*, April 28, 1881, as stated above, and appeared in print in July of the same year, in Dr. Formad's paper.

To the priority of this discovery, therefore, I would lay claim (together with the other results of my work), and I desire to correct the impression which the writer in the *Medical Record* would convey, namely, that Dr. Prudden was the first to make the observations above referred to.

The tumors which are supposed to develop secondarily, through metastasis, by means of the blood-vessels are the sarcomata. These, pathologists say, never affect the lymphatic glands secondarily. The blood-vessels in these tumors, having no walls, are mere channels, so that particles are easily carried off, and find their way directly into the circulation, without first going through the lymphatics.

This immediate contact with the circulation also accounts for the fact mentioned by Acker,* that secondary sarcoma develops with greater rapidity and energy than secondary carcinoma. Yet the walls of the veins present no obstacle to the destructive encroachment of any truly malignant tumor; they are soon perforated, and the neoplasm creeps along the lumen, and is thus brought into immediate contact with the circulation. Once here, under certain conditions, such as a sudden rise of blood-pressure, a blow, etc., a particle is broken off, and, being swept along by the current of the blood, finally acts as an embolus.

Should the embolus travel in the portal circulation, it generally becomes arrested in the liver; should it be carried by the systemic veins, it usually gets lodged in the lungs.

These principles rest upon experimental and clinical facts.

Cohnheim also claims that secondary tumors are the result of the development of tumor emboli, and he concludes that as the periosteal emboli in his experiments disappeared, there must have existed in the organism of the animal used some power to cause this disappearance. This he calls the power of physiological opposition. According to him, therefore, an individual with metastatic tumors lacks this power, *i.e.*, the tissues surrounding the tumor embolus do not possess a sufficient amount of this power to prevent the development of the tumor embolus.

My experiments having shown, *first*, that the periosteal embolus, contrary to the experience of Cohnheim and Maas,† does not disappear in properly-executed experiments, and, *second*, that tumor particles behave in a similar manner, it is evident that the alleged physiological opposition in the tissues of the organs plays no part in the process of metastasis, but everything

depends upon the innate vital energy of the embolus.

My experiments further demonstrate that the growth of secondary tumors depends upon the proliferation of the cells of the emboli, and is due exclusively to the emboli themselves, and not to any infection or impression made upon the surrounding tissue.

These thoughts presented themselves in the form of the following questions:

First. Whether tumors can be inoculated by virtue of any specific property, namely, whether they are due to a specific poison residing in juices.

Second. Whether tumors are due to specific cell life, differing in principles of growth and development from that of normal tissues.

Third. Whether tumors are the outgrowth of superfluous or misplaced tissues in the body, and which grow by virtue of ordinary cell life.

For the purpose of acquiring some satisfactory answers to the above questions, I undertook a series of experiments, which gave rather surprising results,—results which, though not in accord with those of distinguished investigators, appear to throw light upon the development of primary and secondary tumors, and, in addition, offer experimental proof of the identity of normal and pathological cell life.

CHAPTER I.

METHODS OF WORK.

The experiments were performed in the pathological laboratory of the University of Pennsylvania, and under the immediate supervision of Dr. H. F. Formad, Demonstrator of Morbid Anatomy in said laboratory.

In order to present clearly the details of experimentation, it will be necessary to describe each class of experiments separately, and the first class to which I would direct attention are those performed with *tumor juices*. The animals used were dogs, rabbits, and chickens. Most of the material for experimentation was derived from fragments of tumors removed in the clinic at the University Hospital, and immediately after the removal of the tumor a small piece was taken therefrom and scraped with the back of a scalpel. In this way an average amount of about ten minims was obtained, care always being

* Deutsch. Archiv Klin. Med., xi. 1873, p. 180.

† Virchow's Archiv, vol. lxx., 1877.

taken to exclude any particles of the growth. The juice thus obtained was injected by means of a hypodermic syringe into different parts of the animal.

The next class of experiments are those performed with *tumor particles*, which were either transplanted subcutaneously or by means of the jugular vein. As these were made in a manner identical with those in which normal tissues were used, a description of the latter will cover both classes of experiments.

This third class of experiments consisted in the introduction of normal tissues into the circulation.

After thoroughly anaesthetizing the animal, I cut away the hair on the neck in the region of the jugular vein, either right or left, and made a longitudinal cut through the skin and different fasciae. Coming down upon the external jugular vein, and carefully dissecting it out of its sheath, I passed a grooved director under it, and by pressing the vein between the thumb and the grooved director I was able to control the current of the blood in the vein (see Fig. 1). I then caught up the

matter was attached to it. (An extra similar fragment was examined microscopically, and found to be composed exclusively of the elements of periosteum.) Then with a tenaculum I caught up the edge of the cut, and with a small pair of forceps inserted the fragment of periosteum. After this the edges of the cut were seized with the forceps, and thus the opening in the vein was temporarily closed. Then directing my assistant to remove the pressure from the vein, the blood would rush down its accustomed channel, sweeping before it the periosteum or any other tissue particle that had been introduced. Fearing that the embolus might not be carried down to the heart if I ligated the vessel in the usual way, by passing a ligature around it above the cut, I tried another mode of ligation which suggested itself, and which proved most successful: while my assistant held the edges of the cut securely with the forceps (see Fig. 2), I passed a ligature directly under the blades of the forceps, taking in only that part of the vessel-wall around the incision (see Figs. 3 and 4).

FIG. 1.



vein with a pair of forceps, and with a pair of scissors cut obliquely downwards into the vein, below the insertion of the grooved director, thus making a V-shaped incision, with the mouth of the V in the direction of the current. After the cut was made the vein was compressed by an assistant, and the circulation in it temporarily arrested. I next cut down on either the tibia or ulna, where these bones are most superficial, and, pulling aside the tendons, carefully dissected up a small piece of periosteum. The periosteum thus removed was first pressed between the back of my hand and the blade of a scalpel, so as to remove all blood and coagula, and then carefully examined in order to make sure that no bone, tissue, or any foreign

FIG. 2.

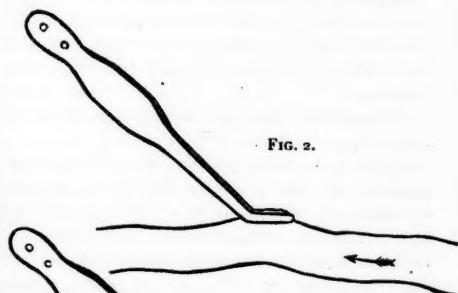


FIG. 3.

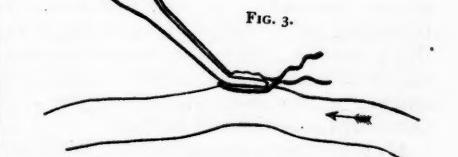


FIG. 4.



The advantage of such a mode of ligation is that it allows the circulation in the vessel to be continued, so that if the embolus should be caught anywhere it willulti-

mately be carried onward. After ligation the wound was carefully washed out, cleared of coagula, and then sewed up with silk sutures.

In like manner other normal tissues and tumor particles were introduced. I would also state that the transplantations were made upon the same animals from which the tissues were taken, and not from one animal to another. But in the tumor experiments the particles were transplanted from man to animals. The autopsies in each case were made immediately after the animals were killed, and the specimens were put into preserving fluid, which was either alcohol or chromic acid. Alcohol was to me the most satisfactory, as a too long exposure of specimens to chromic acid renders them brittle.

(To be continued.)

SOME THERMOMETRIC OBSERVATIONS IN A CASE OF TRAUMATIC DIPHTHERIA OF THE ORBIT.

*Read before the Philadelphia County Medical Society,
April 12, 1882,*

BY ALBERT G. HEYL, M.D.,
Ophthalmic Surgeon to the Episcopal Hospital.

I HAVE to offer a clinical observation and a practical suggestion deduced therefrom. The clinical observation is drawn from the thermometric record of a patient from whom I removed the contents of the left orbit on account of a melanotic sarcoma. This tumor was presented to the notice of the Society some weeks ago, but, as no special mention was made of the diphtheria which invaded the orbit, I beg leave to make record of it in this connection. The orbital contents were removed December 31, 1881. The case did well until January 3 or 4, when a whitish infiltration was noticed on the lids, where the conjunctiva had been denuded in the removal of the eyeball. The orbit itself was not involved at this time, the purplish-red, glistening periosteum being apparently untouched. In a few days the orbit became involved. Thick masses of some purulent, slough-like material were formed in the orbital cavity, whether within the structure of the periosteum or on its surface could not be told from observation. This attack of traumatic diphtheria subsided, and the patient was apparently convalescing. I did not see her on January 13, but on the fol-

lowing day found that the orbital walls were again covered with the diphtheria deposit, which in a few days subsided under treatment. I had here brought to my notice an illustration on a somewhat extended scale of a characteristic of the diphtheria deposit which I had before observed in diphtheritic conjunctivitis, viz., its tendency to form anew, or rather the tendency to the formation of new deposits,—one deposit having gone through certain retrograde changes, and almost disappeared, being succeeded by another.

There is reason to suppose that this characterizes the diphtheria process whenever it occurs, although apparently very little emphasis is laid upon the phenomenon by writers on this disease.

One reason of this, no doubt, is the imperfect knowledge we possess regarding the nature and treatment of this disease: could we control its earliest manifestations, doubtless this recurrent characteristic would be oftener noticed. In connection with this clinical fact it was a matter of interest to examine the temperature record, which was kindly copied for me by Dr. Neilson, who, as surgical resident, had charge of the case. The operation was performed December 31, 1881. On the evening of January 1, 1882, the temperature was 100° . This was the traumatic fever temperature. On January 2, the evening temperature was normal. On January 3 it was 99° , and on January 4, morning, 99.5° . This rise corresponded to the first diphtheria deposit. On the 9th and 10th the temperature became normal. On January 12 it was 99.5° , and on the 14th, 100° . This corresponded to the second deposit. It may be seen, then, that the deposits gave indication of their presence through the thermometer. The practical deduction which may be drawn from this is that in cases where the deposit occurs in localities not readily accessible to the eye, some knowledge of its progress may be obtained from the thermometer. In illustration of this I shall quote the following case, taken from Müller's article on Tracheotomy:^{*} Fourteen days after the operation, patient was doing well; temperature was normal; respiration normal; expectoration thin. Nineteen days after operation, the temperature rose; dyspnoea rapidly increased, followed in three days by the expulsion of a tracheal membrane. Hence, doubtless, a

recurrent deposit was taking place, which gave warning of its presence by rise in temperature.

AN INTERESTING CASE OF CORNEAL REPAIR.

*Read before the Philadelphia County Medical Society,
April 12, 1882,*

BY B. ALEX. RANDALL, A.M., M.D.

MR. PRESIDENT AND GENTLEMEN:—By the kind permission of Drs. Norris and Risley, I am able to bring to your notice a case which has been for many months past under treatment at the Eye Dispensary of the University Hospital, presenting some interesting features.

The patient, a colored man about 60 years of age, born in Delaware, but for many years past living on the Eastern Shore of Maryland, came to the Dispensary on June 8, 1881. He complained that his left eye had been inflamed since the preceding Christmas, with burning and itching of the lids, discharge of muco-purulent matter, and "misery" on that side of his head; worse at night. His fingers were distorted by rheumatic contractions of the tendons; he had suffered much with chronic rheumatism, and the eye-trouble followed shortly a desperate attack of pneumonia. The right eye had been lost by a similar inflammation many years before; its cornea was opaque and bulging, with considerable deposits of brownish pigment in its substance, and it possessed mere quantitative perception of light.

The left eye was quite sensitive to light, the lids thickened and their conjunctival surface velvety. The limbus of the cornea was surrounded by a dense, brawny circle of swollen conjunctiva, deep red in color, with considerable brownish pigmentation. The entire circumference of the cornea was invaded by a deep serpentic ulcer, involving at least half its thickness, which at one point at the inner margin, and at another above, had perforated all the laminae, uncovering the periphery of the iris, and opaque threads, possibly of vitreous, hung from the openings. The floor of the ulcer was grayish, irregular, with a moderate quantity of discharge very unhealthy in appearance, without a trace of reparative action. A central island of cornea remained, irregularly circular in shape, about 8 mm. in diameter, with abrupt, perhaps undermined, margins. Through-

out its greater part it was bluish white, but semi-transparent above, permitting a view of the contracted pupil.

R Boracic ac., Collyr. of atropine. Compress and bandage. Cinchonidia sulph., gr. iij t.d. To return for daily treatment.

On the following day the ulcer looked cleaner and better, but there was little or no trace of repair. Had now very little pain about eye and head, which had before been nearly constant. Tinct. opii was instilled as a stimulant. On the next day there was distinct new formation and vascularization of the cornea at the inner portion, and the island of original cornea had cleared slightly. Week by week the new formation of cornea slowly advanced, while the island of old cornea decreased *pari passu*. By the last of September it had but about one-half of its former diameter, while the new-formed cornea, lying at a lower level than the old, was well vascularized, uniform, and reasonably smooth. About the middle of October the reparative process had reached the pole of the cornea; the island remaining only on the temporal side. The cornea seemed to be bulging forward, and the anterior chamber appeared to be abolished. At this time a yellowish coloration appeared in the new tissue below, and on close examination this was seen to be slightly swollen and fatty-looking, but well vascularized. Whether the yellowish color was due to exudation in the anterior chamber, or in the cornea itself, could not be determined. Two weeks later, this coloration had spread and deepened in tone, and a reddish point had appeared near its centre, apparently a granulation from the iris forcing its way through the cornea. This conclusion seemed confirmed when, after a day or two, this portion began to flatten, as if drawn in by the contraction.

Up to this time the new-formed cornea, through the rest of its extent, had steadily increased in size, following on the advance of the destruction of the old tissue, and had become clearer, although the iris and pupil were hardly discernible. Now the haze at the pole increased, and there was a threat of bulging. On the 5th of November the cornea was found to have yielded, and there was a delicate bubble-like protrusion of the membrane of Descemet, threatening to burst. Under careful pressure the danger was averted, and the thin

tissue regained its former thickness. But I must not weary you with the further details of ups and downs in the slow progress of the case, interesting as they have proved to me. The series of drawings which I submit will show better than words the various phases which it has undergone. Until the last of January the advance was continuous, varied rather than interrupted by the thinning of successive portions of the cornea, which would threaten to rupture, but would grow firm again under careful treatment. At this time all trace of the island of old cornea had disappeared, the new cornea was clearing, the pupil and the structure of the iris had come into view, and fingers could be counted at nine inches. The pupillary margin was now seen to be totally adherent to the anterior capsule, and there was a white spot at the anterior pole of the lens.

A week later the cornea had again clouded, obscuring the view of all behind it, and the eye was in all respects worse.

About the middle of March there was a threat of an abscess in the lower portion of the cornea, gradually disappearing, but on April 6 the eye was again worse, and the cornea at the threatened point had thinned to a mere film, and rupture seemed again imminent. To-day the danger has been transferred from this point to another at the lower and outer limbus, where there are signs of weakening and distention. The final result of the treatment is, therefore, still in doubt, but, as the result of the almost daily changes which the eye has undergone, we have a new cornea replacing that which had sloughed, made up of true corneal tissue, which has been clear enough to afford some useful vision, and it is not unreasonable to hope that there will ultimately be saved a modicum of vision, small, indeed, but very valuable to the unfortunate patient.

A NEW ADJUSTABLE TRIAL-GLASS FRAME.

*Read before the Philadelphia County Medical Society,
April 12, 1882,*

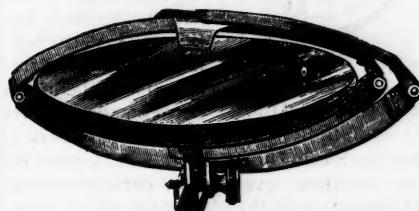
BY B. ALEX. RANDALL, A.M., M.D.

ABOUT a year ago my attention was directed by Dr. Risley to the need of a good adjustable frame for the trial-glasses in refraction work. The ordinary frames, without adjustment, serve well in many cases; but the need of variation of the height

and separation of the lenses is often felt, even with adults, and with children the frame must usually be held in place by the hand. Most of the adjustable frames consist of a horizontal bar, upon which slide two semicircles opening downward for the reception of the lenses, which are held in place by spring clips. The frames are generally cumbersome and inconvenient, and the placing or removing of a glass usually demands the use of both hands. The frames of Dr. Green's and Dr. Risley's optometers have the semicircles opening upward, so that there is no difficulty about the placing or withdrawing of the lenses, and both have an adjustment for the distance between the centres; but in Dr. Green's this movement is inadequate. In Dr. Risley's optometer the needs are met, but in a shape entirely too heavy to be applicable to a spectacle-frame. Each of the latter instruments has three grooves for the reception of the lenses, a feature often of great value.

The importance, in all examinations with glasses, of having the eye look exactly through the optical centre of the lenses is recognized by every one who has given it attention; and as the distance between the pupillary centres varies from about 50 to 66 millimetres in persons ordinarily subjected to test by trial-glasses, a movement of 16 mm. is necessary for approximate centring. An adjustment of the height of the centres is also at times necessary, owing to the variable relation of the eyes and bridge of the nose. These adjustments, with arrangement for three lenses at once, have been the requirements presented for fulfilment in the new frame.

In the new frame the cumbersome bar of the frame of Jaeger is replaced by a little



block of truncated wedge shape, which forms the centre of the instrument. Through a rectangular mortise 3 mm. in width by 4 mm. in height, perforating the block from side to side, two narrow bars 22 mm. long slide horizontally past each

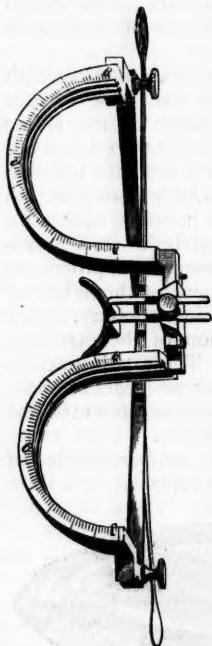
other, all other movement being prevented by the close fit of the mortise. Each of these bars, bending at right angles, passes vertically down to become continuous with a graduated semicircle with its concavity upward, which is to hold the trial lenses. Each semicircle consists of a half-tube 7 mm. in length and 35 mm. in internal diameter, with a groove near its anterior and posterior surface respectively, for the reception of the flanges of the trial-lenses, while the equivalent of a third groove is furnished by a set of three hooks on its front. The ridge between these grooves is 3 mm. broad, and is the exact continuation in position and size of the vertical arm, which is twice the width of the horizontal bar.

We have, then, the graduated semicircles suspended by the vertical arms from the horizontal bars, and capable of being approximated or separated by the movement of these bars through the central block. This block being but 5 mm. in breadth below, the semicircles can be brought within 5 mm. of each other, giving a distance between the centres of 50 mm. They can again be separated so as to give a distance of 66 mm. between the centres. Any further amplitude of movement could readily be obtained by lengthening the horizontal bars; but this has seemed sufficient.

As the horizontal bars correspond with the spaces between the grooves of the arcs (this is not correctly shown in the cut), they do not interfere, even when centred at the narrowest, with the glasses placed in these, except when a very thick lens is placed with its prominence inward. All necessity for this is avoided by the use of the hooks in front, except when three very thick lenses are simultaneously employed with the frame at its narrowest. Then a little care is neces-

sary to place or remove the middle glass; but $-20^{\circ} \sim -8^{\circ} \sim \text{Pr. } 15^{\circ}$ can be thus used, —a combination never exceeded, even in Dr. Green's combination sets of lenses.

The frame was designed to be used with a handle like that of the binocular ophthalmoscope of Giraud-Teulon, and this will often be found the best way to employ it. If the patient sit in an arm-chair, it requires hardly any effort to hold the frame in position, the elbow resting on the arm of the chair. When preferred, however, the bows of the ordinary frame are readily substituted, or, as in the instrument here presented, added so as to be readily detachable, so that it can be used in either way. When used with the bows, the adjustment for height, so readily made by the patient's hand in the other case, has to be accomplished by a mechanical contrivance. Only when very widely centred is this necessary, as the semicircles themselves will generally rest on the sides of the nose and hold the frame in good position. An adjustable bridge has therefore been added, carried by a slotted bar sliding vertically in the same grooves, and clamped in any position by the same binding-screw that would hold the handle, were that employed. This bar is bent backward at an angle of forty-five degrees, so that, while adjustable vertically for any height, its pressure comes nearly at right angles to the line of the nose, and it has therefore little tendency to slip. It is very readily adjusted, and even when not necessary makes the position of the frame more accurate and secure. The frame is made by Mr. Ivan Fox, optician, 1632 Chestnut Street.



A CASE OF RENAL ASTHMA.

*Read before the Philadelphia County Medical Society,
April 19, 1882,*

BY JOHN H. PACKARD, M.D.

IN July, 1881, while at Cape May, I was called one night at about 11.30 to the hotel opposite my house to see a gentleman about 50 years of age. I found him suffering from intense dyspnoea; his face and lips pale, with an anxious expression, and thready pulse; his whole surface bathed in cold sweat. He was sitting in a chair, leaning forward against the foot of his bed.

On inquiry, I was told that he had not long returned from a trip to Europe,

and that in the spring, previous to his departure, he had been told that he had something the matter with his kidneys. He had had a similar but much less violent attack of difficulty of breathing on the evening previous to my seeing him, but on retiring to bed, an hour before I was called, he had remarked that he felt better than he had for a long time.

I had mustard plasters freely applied to his chest, and his feet were bathed in hot mustard-water. I also ordered a mixture containing liq. morph. sulph., sp. ætheris comp., and syr. tolutani.

After several doses of this had been given, at intervals of fifteen minutes, his difficulty of breathing still continuing, I began cautiously to administer sulphuric ether by inhalation. Some slight relief was given. In order to greater convenience, I suggested his getting into bed, and with some assistance he rose, walked round to the side of the bed, and lay down. I then began again to give the ether, very cautiously, holding the towel some inches above his face. But before he had taken more than a very few inspirations I saw a change, and his efforts at breathing grew much less vigorous. Throwing away the towel, I instantly made attempts at artificial respiration, and called for some brandy, but in a very few moments he was dead. I have been led to report this case because the fatal result was ascribed by his former physician to the ether,—at least so I was informed from several sources,—and the family were not only distressed at the idea, but were naturally inclined to blame me.

My firm belief is that death was the inevitable issue of this case, no matter what treatment had been pursued, and that the cause of the dyspnoea was the effect upon the respiratory centres of some form of uræmic poison. I freely admit that this was an after-thought, and that at the time I did not distinguish that I had not to deal with a case of ordinary but unusually severe asthma.

Let me conclude by making quotations from two eminent authorities on this subject: "One must reckon amongst uræmic symptoms those asthmatic attacks which sometimes assail the subjects of chronic renal affections a long while before their death. These attacks of asthma, like all neurotic asthmas, come on in paroxysms, with intervals of complete freedom, and

are most frequent at night-time. I must defend the uræmic origin of these attacks against the opinion which Rosenstein entertains as to their nature. I have observed them in individuals in whose respiratory and circulatory organs no other explicable cause for such exceedingly violent fits could be discovered than bronchial spasm; and the real cause of this spasm, I believe, was uræmia."*

Dr. Burney Yeo (*Practitioner*, July, 1881, p. 8), in a communication on the pathology of asthma, speaking of the nervous element in that disease, says, "Let me illustrate this remark by reference to a case of so-called 'renal asthma.' Here we have blood-contamination as an obvious cause of the nervous disturbance, and the chain of phenomena is tolerably complete. A patient, towards the closing scenes of Bright's disease, with contracted gouty kidney and hypertrophied heart and thickened arteries, gets sudden attacks of alarming dyspnoea, arising apparently without any cause, sometimes when sitting tranquilly by his fireside after dinner, sometimes in the middle of the night, or at any other time. He has no cough, no moist râles, but expiration is difficult and prolonged, just as in the usual form of asthma; moreover, if you let him inhale chloroform vapor, the paroxysm of asthma disappears. Now, it would seem," etc.

He says, however, "The urinous odor in the breath is always very marked in these cases."

ACCIDENTS FROM THE USE OF JABORANDI AND PILOCARPINE IN DISEASES OF THE EYE.

*Read before the Philadelphia County Medical Society,
April 26, 1882,*

BY M. LANDESBERG, M.D.

IN several articles I have successively brought before the profession the results of my experiments with jaborandi and pilocarpine in the various morbid conditions of the eye. The elucidation of the real value of these remedial agents having been the only aim of my investigations, I have reported with an unbiased mind the history of the cases under observation, pointing out the successes as well as the failures, in order to enable the reader to judge of the merits and demerits of the

* Bartels, Ziemssen's Cyclopaedia, vol. xv. p. 111, Am. ed.

new remedies from conclusive facts. The latter speak evidently in favor of jaborandi and pilocarpine. They have proved to be a highly valuable addition to ophthalmic therapeutics, and to act almost as a specific in certain affections of the eye, in which the usual treatment had failed to bring about the desired effect. Abstraction has been made from five cases, which I shall consider farther on; I have not observed in any other of the more than one hundred cases of the various affections of the eye, in which I tried either jaborandi or pilocarpine, from the extensive use of these drugs, any unfavorable after-effect upon the eye. Only in four cases of detachment of the retina, and in one case of serous choroiditis with consecutive detachment of the retina, *the remarkable incident of rapid development of cataract occurred* after the lens had remained perfectly transparent during the whole course of treatment and for a short time afterwards.

The five cases under consideration are as follows:

Case I.—Mrs. P., 31 years old, came under my treatment, October 5, 1878, for detachment of the whole inferior half of the retina of the left eye. Humor vitreous was free. Vision was reduced to counting fingers at ten feet. Seventeen subcutaneous injections of half a grain of pilocarpine had the effect to increase vision to $\frac{1}{16}$. Retina reattached, with the exception of a very small segment in the inferior quadrant. The condition remained unchanged until April 10, 1879, when I noticed beginning cataract and vision $\frac{1}{100}$. Detachment of the retina had not progressed. From this time forward the opacity of the lens progressed very rapidly. The cataract was mature in the middle of June.

Case II.—C., carpenter, 36 years old, came under my treatment, October 24, 1879, with detachment of the inferior half of the left retina and with large opacities of the vitreous. The treatment with subcutaneous injections of pilocarpine had no effect. In the fifth week after patient had been dismissed, opacity of the lens developed, which evolved in the course of four months into *cataracta nigra* (black cataract).

Case III.—B., merchant, 46 years old, sought my advice, April 18, 1880, on account of fresh detachment in the upper-inner quadrant of either retina. There was myopia $\frac{1}{2}$, with vision of the right eye $\frac{1}{100}$, and of the left eye $\frac{1}{16}$. Humor vitreous was free. On fifteen subcutaneous injections of half a grain of pilocarpine, the retinal detachment became flatter, and vision of the right eye increased to $\frac{1}{16}$, and of the left eye to $\frac{1}{16}$. The condition remained unchanged until the middle of Sep-

tember, when opacity of either lens developed. Towards the last days of December there was mature cataract in the left eye, and immature cataract in the right one.

Case IV.—T., clerk, 41 years old, presented himself, June 9, 1881, with a fresh detachment of the retina of the left eye, in its upper-inner quadrant, reaching as far as the optic disk, and protruding like a bag into the vitreous. Jaeger 13 was read with peripheric fixation. Final result, August 15, after seventeen injections of half a grain of pilocarpine: retina totally reattached in the inner quadrant, and only a flat detachment in the upper periphery; fixation is central, and Jaeger 1, the finest print of the test-tables, can be easily read. September 22 I first noticed a diffuse cloudiness of the lens, which almost totally veiled the background of the eye. Quantitative perception of light was good in all parts of the visual field. In the middle of October the cataract was mature.

Case V.—A., laborer, 33 years old, came under my care, February 17, 1880, for serous choroiditis of the left eye. Detachment of the upper part of the retina set in in the third week of the treatment. The internal use of the fluid extract of jaborandi, in daily doses of one tablespoonful, had the most favorable effect to check the progress of the morbid process, and to cause the retina to reattach entirely. This favorable condition remained stationary for four weeks, when opacity of the lens appeared, which in two months developed into mature cataract.

It would not be amiss to add to these five cases one observation of the same nature, which I have recently made in a horse of eight years of age. I treated the latter for irido-choroiditis and large opacities of the vitreous with an infusion of jaborandi leaves and subcutaneous injections of pilocarpine. The morbid process was very rapidly checked, and the vitreous cleared up entirely; but in the fourth week of the treatment I noticed the development of opacity of the lens, which had been perfectly clear all the time. The cataract progressed so rapidly that the background of the eye became entirely veiled within two weeks.

Now, the question arises whether we have to regard the development of cataract in these instances as a consequence of the treatment with jaborandi respectively pilocarpine or as mere coincidence only? Experience teaches us that the development of cataract is not of rare occurrence in eyes which are affected either with detachment of the retina or with some disease of the uveal tract, and we may possibly have to deal in these instances also only with such

a common incident. But, on the other hand, we cannot forbear suspecting that the treatment itself might stand in near relation to the morbid changes of the lens. It is not unlikely that the use of pilocarpine respectively jaborandi might either have accelerated the development of the cataract, which might have occurred spontaneously, however, somewhat later, or that it has been the immediate cause of the consecutive opacity of the lens. But whether we have to do in these instances with a casual occurrence only, or with the relation as between cause and effect, further investigations have to show. I am perfectly aware how dangerous it is to draw general conclusions from a small series of observations, and I am far from intending to do so by the communication of these few cases. The consideration only of the extensive use which is made of jaborandi and pilocarpine in general as well as in ophthalmic practice has prompted me to draw the attention of the profession to this question, which can be settled only by the collaboration and experiences of a greater number of observers.

1912 ARCH STREET, PHILADELPHIA.

SOME OF THE BAD EFFECTS RESULTING FROM "RETAINED PLACENTA."

*Read before the Philadelphia County Medical Society,
May 17, 1882,*

BY WILLIAM H. PARISH, M.D.

THE proper management of abnormal labor must be based largely on observation of those processes pertaining to labor physiologically effected. In accordance with this broad statement, the rule of practice is to remove the placenta and membranes within a short period—say within thirty minutes—after the expulsion of embryo or foetus. This rule is so well established, and it would seem, on limited consideration, so universally adopted in modern practice, that even a short paper on the subject would appear inappropriate before this Society. Yet I am convinced that under some circumstances the after-birth is not infrequently left for hours or days *in utero*, very generally to the detriment of the woman, and in some cases with the effect of causing her death.

In a paper read before this Society, in

1880, by one of its most experienced members, and in the discussion based upon that paper, cases were referred to in which the placenta was left in the uterus for hours without harm to the woman; and one instance was cited in which, near the full period of pregnancy, one-third of the placenta was left permanently in the uterus, and the patient could not remember afterwards that this fragment ever passed away. The writer stated that "in many cases he had left the placenta in for twelve or eighteen hours without bad results."

If, however, one ship breaks to pieces on a hidden rock, that rock is a dangerous one, even though other ships have but lately passed it in safety: the judicious mariner must steer clear of it.

I believe that as long as any portion of the placenta or of membrane remains in the uterus, so long is the patient in danger: the judicious removal of these products of conception removes the danger in part or entirely.

Hemorrhage severe and rapidly exhausting, or even quickly fatal, may depend upon the presence of portions of the after-birth. The bleeding may be a gradual one, however, not endangering life from syncope, yet sapping the patient's strength, and facilitating the inroads of blood-poisoning and of inflammation. But when there is hemorrhage, every practitioner sees at once the danger, and removes the after-birth. The occurrence of hemorrhage seems to stimulate him to at once empty the uterus; and he should remember that hemorrhage thus originating may not occur until after the lapse of days or of weeks.

When portions of the after-birth remain in the uterus for several hours, there is an accumulation about them of coagulated blood. This mass of animal matter dies, decomposes, and septic material is formed. The septic decomposition extends to coagula in the uterine tissues, and constitutional infection results through the vascular system. The lymphatics are not idle, and through their agency there is further systemic poisoning.

Phlebitis and lymphangitis of the uterus soon appear, and the inflammation, usually sluggish, though malignant in character, extends to the tissues adjoining. Metritis, cellulitis, pelvic and general peritonitis, become further complications. Septicæmia is always one of the dangers threaten-

ing when portions of after-birth are allowed to remain in the uterus. How soon will decomposition take place? and how soon after labor may this form of septicæmia begin? I am confident that putrid decomposition may begin in less than twelve hours after the escape of the child. I have known a child to die during labor of eighteen or twenty hours' duration, and decided putrefaction of it be progressing on its delivery. In one instance I removed, for a young practitioner, the placenta twenty-four hours after the delivery of a large and healthy child, and the placenta and clots about it were in a condition exceedingly offensive from decomposition. The conditions existing in the uterus and in the vagina are peculiarly favorable to rapid decomposition after the entrance of atmospheric air: warmth, moisture, and access of air combine to render the putrefaction often rapidly established. Absorption probably begins almost with the beginning of decomposition; this form of septicæmia may begin within twenty-four hours after labor. The systemic poisoning is established by degrees, and the symptoms are often so insidious as to escape observation until after they become urgent.

Some months ago I saw in consultation a woman on the tenth day after delivery at full period. The intelligent physician in attendance had been called to the aid of a midwife during the labor. The child had been delivered; the placenta was in the uterus. He made considerable effort to remove the placenta, but the woman resisted, was ungovernable, and a piece about the size of two fingers was left attached *in utero*. No symptom occurred to attract his attention until the evening of the ninth day, when the very rapid pulse, high temperature, abdominal distension and pain, vomiting, and pinched features, then marked the urgency of the case; but I cannot believe that these were the symptoms of beginning septicæmia. They were the evidences of the disease at its greatest intensity, at a stage when a fatal result can scarcely be averted. On the morning of the tenth day I saw the patient with him. The symptoms were such as I have mentioned, and of increasing severity. Death was imminent. There had been no hemorrhage; there was an offensive brownish discharge from the uterus. The portion of placenta was then removed by the doctor without difficulty; it was at that

time but loosely attached, softened, and putrid; the cervix was patulous, as is usually the case after decomposition has progressed. The patient died on the same day. There was no other possible cause of death but the retained portion of the placenta. I wish to emphasize a further fact,—viz., that ergot had been faithfully administered for days with the view of emptying the uterus of this fragment. This single fatal case is of more weight than scores of non-fatal cases in which the placenta or a portion of it may have been left in the womb. In this case the patient strongly resisted the doctor's efforts at removing the placenta on the day of the labor. The other women present were ignorant and interfering; the doctor's patience was sorely tried, and he left the fragment, trusting to the very unreliable influence of ergot to expel it. The absence of bleeding and the insidiousness of the symptoms led him to continue passive until too late. This concise history would apply to not a few other cases, doubtless, if they were brought to light.

It is, however, in miscarriages that the error of leaving the after-birth in the uterus for a few hours or days is most frequently committed. The placenta is then more apt to be adherent than in labor at full term; the uterine body contracts with less efficiency, and the sphincter fibres of the neck are more prompt in closing the cervical canal after the escape of the child. The accompanying dangers are of the same character as in incomplete labor at the tenth month, and a fatal result may in like manner follow. In 1880 I saw, also in consultation, a young married lady on the seventh day after a miscarriage of twins at the fifth month. After the escape of the twins the cervix closed so rapidly that the physician in attendance found himself unable to remove the placentæ, and both were left entire. Ergot was administered for several days; on the seventh day the symptoms of peritonitis and of septic infection were alarming; on my first visit—*i.e.*, on the eighth day—we removed the placentæ in a state of partial decomposition. The patient continued to sink, and on the morning of the ninth day died. In addition to the condition mentioned, the urine had become highly albuminous. Had the placentæ been removed at the time of delivery, she would have quite certainly recovered. But

in a large majority of instances death is not the result: the placenta is eventually expelled; the symptoms of blood-infection and of inflammation subside. The uterus, in such instances, does not, however, undergo sufficient involution; an obstinate form of womb disease is entailed, invalidism more or less decided exists for years, and sterility or successively occurring abortions are among the consequences.

In some instances the recovery is greatly prolonged, and confinement to bed for weeks or for months is necessitated; a condition of the system resembling typhoid fever obtains. I have no doubt that such a condition has been repeatedly diagnosed to be typhoid fever.

I have now under treatment in the Philadelphia Hospital, and still confined to bed, a woman who, some three months ago, had an abortion at the fifth month: she was delivered by a physician in the city at her home. Three weeks after the birth of the child a severe hemorrhage occurred, and the placenta was then removed. Pelvic inflammation and general peritonitis developed, with septic infection. In this condition she was sent to the hospital. She has run the gauntlet, presenting many of the symptoms of typhoid fever, and now, after three months, emaciated and almost exhausted, she has begun what must prove a most tardy convalescence, all due to the presence of the placenta *in utero* for three weeks after the delivery of the fetus.

It has not been my aim to present a systematic paper on the general subject of "retained placenta." I have merely desired to emphasize anew the fact that it is faulty—I will say malpractice—to leave any portion of the after-birth in the uterus with the hope that it may do no harm, or that ergot may secure its early expulsion. Injury may always be expected, and sometimes death, from such practice. Ergot, instead of expelling the now foreign substance, may, by contracting the neck, securely incarcerate it until putrefaction is established.

MALARIAL FEVERS TREATED WITH QUININE SUPPOSITORIES.—The use of quinine by the rectum, either in the form of suppository or enema, has been recommended by Prof. Alonzo Clark, in the same dose as by the stomach. This is especially applicable to intermittents in children.

VOL. XII.—22*

THERAPEUTIC DOSAGE IN CONNECTION WITH THE USE OF CERTAIN MEDICINES AS ALTERNATIVES.

*Read before the Philadelphia County Medical Society,
May 24, 1882,*

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I DESIRE to invite your attention this evening to a few observations upon the effects of certain drugs. These observations especially apply to drugs which are to be used as alteratives; and in so doing I propose to show that these effects can be best secured, first, by careful attention to the method of administration, and, secondly, that attention to the method of administration will permit one to modify the size of the dose of many substances, and yet secure a positive physiological effect.

INFLUENCE OF ALBUMEN.

Albumen and the intestinal fluids may aid or hinder the therapeutic effects to be secured from the administration of particular drugs. With salts of iron, arsenic, zinc, copper, silver, or manganese, the meal-hour is habitually selected for their administration, because the albuminoid fluids render the absorption of these substances more facile. When the substance to be taken is irritant, the same rule will apply. For instance, if a larger amount of iron is given than can be digested, the blackened stools show the presence of the iron unabsorbed. It has been demonstrated that if an albuminous solution be added to a solution of some of the salts of various metals, *i.e.*, copper or silver, a precipitate is formed; if more is added, the precipitate redissolves, and it may again be reformed if still more is added. In the case of nitrate of silver, the separated metal acts upon the tissues with which it comes in contact as a gentle stimulant, without producing the painful effects of a strong chemical action.

Calomel requires the action of the intestinal fluids. It is not assimilated as the iron salts, but is acted upon by these fluids, and enters the circulation as calomel or as an oxide of mercury, but not as corrosive sublimate; otherwise the speedy mercurial salivation of bichloride of mercury would be produced. Again, the fatty matters of the intestinal canal form a

solvent for such a substance as phosphorus. On the other hand, albumen may hinder the action of some substances. I quote a few illustrations from Gubler's Therapeutics:

Cantharides, when absorbed from a blistered surface, is capable of causing stranguary. Why does not lymphangitis or phlebitis occur in parts around the blistered surface, although such grave symptoms of kidney-trouble have been induced by the application? The explanation is that albumen, if present, opposes the accomplishment of the usual effect of cantharides; but when eliminated in the kidneys, in a secretion which normally is exempt from albumen, it becomes free, and produces on the kidneys and on the rest of the urinary apparatus the effects which cantharides ordinarily determines on the skin, on the mucous membranes, and, in fact, on all the surfaces with which it comes in direct contact. Again, large doses of chlorate of potassium may be given to a dog, together with the iodide of potassium. In this experiment there is probably formed an iodate of potassium, and toxic accidents often proving mortal for quite large animals may be induced. When the two substances are introduced separately into the circulation, the one, for instance, by the stomach, the other by the rectum, they are separately absorbed, and do not come into contact before mingling with the serum of the blood, and so do not cause any fatal issue.

Claude Bernard has introduced lactate of iron into the circulation, and painted the internal aspect of the stomach with yellow ferro-cyanide of potassium, and the blue tinge obtained was confined to the superficial layers of the mucous membrane, thus clearly showing that the acid necessary in the presence of albumen for the production of this reaction was present only in these superficial layers: in other terms, the acid has simply modified the albuminoid solution, depriving it of its functions. Moreover, every one is familiar with the fact that the action of many organic substances, such as morphia or atropia, is materially modified if they are swallowed when there is a considerable proportion of food in the stomach. Corollary: unless special action of the intestinal fluids upon substances used as medicines is desired, it is better to give such substances in the intervals of digestion. When medicines are

introduced into the stomach during a time when the digestive processes are in active operation, not only may a negative effect of the albuminous fluids obtain, but the substances, when absorbed, are rapidly carried off by the circulation, so that a prolonged and positive impression of any drug upon the system is not secured. An illustration of what I mean may be found in the action of arsenic as a caustic. We are aware that it exercises a peculiar selection in attacking tissues destructively. It is but a question of the proportion or quantity applied. When it comes in contact with a tissue well supplied with blood-vessels, it is partly carried off in the circulation, and there is never a sufficiently large quantity present to produce death of the part. In tissues not so well irrigated it is, on the contrary, apt to accumulate. It spares then the living tissues, but acts on others where there is a great accumulation of new cells, as in encephaloid cancer. We may then assume that, unless special action of the gastric fluids upon substances used as medicines is desired, it is better to give such substances in the intervals of digestion; for not only is the effect of the drug more potential, but the amount required is manifestly smaller.

DEFINITION OF AN ALTERATIVE.

If now one should ask, "What is an alterative?" I quote from Gubler: "Alteratives are substances which, in place of merely traversing the organism, form combinations with the plasma, penetrate into the substance of the elements, live the same existence as the elements themselves, and as long as they do, and, consequently, during a certain time form an integral part of the organism." As an illustration of the principle already demonstrated, and as typical of the proper method of giving all substances from which an action as alterative is expected, let us consider the administration of iodide of potassium. Accordingly, the iodide is most efficient when the functional activity of the digestive processes is at a minimum. It is also more effective when given freely diluted, because of the reasons already cited, and in order that the quantity entering the circulation may never be sufficient to produce an irritant effect, and in order that it may pass as slowly as possible into the system, and thus become gradually an integral part of the plasma of the tissues,

i.e., become an alterative. In my experience, one can reduce markedly the dose and gain more than double or triple the effect of the drug than when it is used in any other manner. My own plan is to administer the iodide in wafer (two grains per dose, once or twice daily), and follow with a pint of Vichy or other water. If no effect be produced, I increase grain by grain the iodide up to five grains, since there can be no other guide to the amount of a drug to be used therapeutically except the standard of the effect produced. But I claim that the two-grain dose will be found to accomplish, in a large majority of cases, all that fifteen-grain doses will effect given on any other plan, and also that five grains is usually a maximum alterative dose. Syphilis is an exception to the rule I have defined for myself. In this process large amounts of the iodide seem to be serviceable when small amounts totally fail. Aneurism is another exception calling for an increased quantity. When iodide of potassium is given to affect the pulmonary mucous membrane, five- to ten-grain doses are perhaps more efficient, because in this case the drug is given to increase secretion or act as an expectorant, but not as an alterative. If it is given as an alterative to the pulmonary mucous membrane in chronic bronchitis, the smaller dose is most efficient. The small dose already mentioned is also efficacious in all forms of rheumatism for which the potassium salt is advised, and will produce more promptly a positive effect. It is a markedly efficient substance in interstitial hypertrophic hepatitis, with or without jaundice, from associated catarrh of the hepatic biliary canals.

It is really wonderful how positive the alterative action is in these cases. Let me quote one example from my case-book, —the history of a lady aged 43, suffering under an attack of interstitial hepatitis, with jaundice, of two and a half years' duration, and the usual intestinal symptoms, i.e., flatulence and clay-colored dejecta. The hepatic measurements were nine inches in nipple-line, and corresponding lateral enlargement. During all this time calomel, the acids, and iodide of potassium had been used. But under the two-grain doses, given as described, the liver was reduced in fourteen weeks to very nearly normal limits. This case is but an exam-

ple of a series which might be recorded did time permit.

To effect the absorption of chronic pleural effusions, where medicinal treatment is availing, the smaller dose is less efficient than the larger, because at all events an alterative action is not required.

CALOMEL—SUITABLE DOSE AS AN ALTERATIVE.

The next drug to which I would solicit attention is calomel. None can be more ready than myself to subscribe to the beneficial effects of the ordinary doses in the majority of cases in which it is prescribed. But there are numerous instances of mal-assimilation, in which the secretions of the digestive tract are imperfectly elaborated, or in which the action of the liver upon the albuminoids received from the digestive tract is imperfect. A true alterative effect upon the hepatic gland, especially in its haemato-genetic function, and a gradual effect upon the glands of the system of the small intestine, are desired. It is exceptionally useful in cases of anaemia to prepare the pathway for the use of the more positive haemato-genetic agents, such as iron. Iron, preceded by calomel, given sometimes until a slight constitutional action is evoked, will accomplish much which cannot be gained by its use in any other method. Fothergill's observation that iron is inefficient if given when there is a coated tongue is *apropos*. Cases of anaemia with neurasthenia, also the so-called nervous dyspepsia, attended with the secretion of an abundant urine of low specific gravity, with vaso-motor disorder, headache, pulsations of the temples, etc., are much benefited by the prior use of calomel. In these cases iron tonics (phosphorus, arsenic) are badly borne unless preceded by some such alterative course. In the opposite class of cases, where a plethoric habit prevails in young women with violent headaches, of full habit, the symptoms are often more promptly relieved by this drug than by any other treatment. I have spoken thus in detail, because when I state the dose employed, viz., the one-hundredth of a grain, there may be some demur. Sometimes I have used the fiftieth of a grain. A gentleman who took these doses said to me once, "Doctor, I don't dislike the effect of your medicine; but tell me if I am taking calomel." I replied in the affirmative, but alluded deprecatingly to the size of the dose, and asked how he

knew he was taking calomel. He replied, "It affects my bowels as calomel usually does,—namely, changing the color of the actions." In cases of clay-colored actions in jaundice, the color has been rendered normal, and constipation obviated, by these doses. In a recent absence from the city, the writer left a case of interstitial hepatitis under the care of a friend. The patient was taking the one-hundredth of a grain of calomel. The gentleman in whose care the patient was left was sceptical as to the potential character of the apparently insignificant dose. On my return I asked, "What is Mrs. —— taking?" He replied, "The same treatment as when you left, except that I have given the fiftieth of a grain of calomel, as she was slightly troubled with constipation and clay-colored actions, which state of things was promptly remedied."

In the writer's experience, save in a small proportion of cases of simple "biliousness" (temporary congestion), the treatment of hepatic conditions by calomel or the iodide of potassium, or by both together, is far superior to the acid treatment. The usefulness of this plan is attested by the frequency with which courses of treatment at mineral springs are prescribed in this class of cases. Nature is prepared to administer remedies in dilute solution when the stomach and digestive tract are inactive and also when she wishes an alterative effect.

With the "mighty chloride," one must remember that it is efficient through the operation of the secretions of the small intestine, alkaline juices or mucus. It is well known that teaspoonful doses have been given in the Western States with no more positive effect than a grain given as a dose in this community. Why then are these small doses so potent? It is because the introduction of each molecule of powder into the system is rendered more facile. It is also obviously important to remember that these doses should be given between meals.

INFLUENCE OF DIET.

In cases of malassimilation, it need scarcely be added that the question of diet must receive scrupulous attention,—not so much the exclusion of albuminous matter, as the administration of the same in an assimilative condition. If a mixed diet is used, attention to detail must be ob-

served in prescribing it. Remember, it is said that "a pound of flesh is enormously superior to a pound of cabbage; yet to a rabbit the cabbage is the superior food, whilst to the dog it is no food at all."

STRYCHNIA.

When strychnia is given as an alterative stimulant to the nervous system, the dose may be advantageously made very small. In Schieffelin & Co.'s list one can find granules of strychnia of the $\frac{1}{100}$ and $\frac{1}{200}$ of a grain each. This provides us with a preparation which is often the proper dose. Individuals have stated to me that they could not take strychnia: it had been tried as a remedy by this or that prominent physician with signal failure. I have asked, "Will you try my strychnia?" and forthwith have ordered the granules above named, not only with toleration, but with marked benefit. For example, tympanites has been modified, neurasthenia benefited, nervous headache relieved, respiration influenced, and the like. It is a fundamental principle, however, that no positive dose can be laid down as universally suitable. One can elicit an effect from a small as well as from a large one. The more the alterative action is demanded, the best rule will be to commence with a very small dose, for instance, the $\frac{1}{200}$ of a grain, and increase the dose cautiously until the symptom for which the drug is administered is relieved, or a mild physiological action is elicited. On the other hand, when the drug is used as a respiratory stimulant for an urgent symptom, such as dyspnoea, there is a decided call for a promptly efficient—*i.e.*, large physiological—dose: the one-twenty-fourth of a grain may be used.

BELLADONNA.

Again, in the use of belladonna, when an alterative effect can be waited for, it has been my fortune to find that quite small doses of the tincture, well diluted, will accomplish a physiological effect. In a case of recurrent epileptiform convulsions caused by morbid growths within the cranium, three drops of tincture of belladonna in half a glass of water, given daily, not only controlled the symptom, but within two weeks produced characteristic physiological action. On the other hand, there is no doubt that in cases of heart disease, where prompt physiological action is desired, the ordinary doses are useful.

MANIPULATION.

In conclusion, let me call attention to the value of frictions and rubbing of the skin with some animal or vegetable oil as an essential part of an alterative treatment, especially in hepatic and renal diseases. We are all aware of the increased functional activity of the skin induced by this measure. In hepatic disease, when jaundice is a symptom, much of the coloring-matter can be withdrawn from the skin by this means, and the itching effectively relieved. Partially-reduced albuminoids are cast off, and the blood more thoroughly depurated. Besides this, the peripheral circulation is quickened and the systemic circulation is thereby improved. By abdominal rubbing and massage over the liver, the circulation through that organ is improved, and in the series of cases of hypertrophic cirrhosis and jaundice previously alluded to, I believe the rubbing was an essential factor in the treatment. The jaundice disappeared in those portions of the body upon which most friction had been applied. In chronic renal diseases, the vaso-motor system is stimulated and the heart hypertrophies. In these cases, circulation being nearly perfectly carried on, digestion and elimination are nearly physiological. With failing heart and diminished vaso-motor tonus, the digestion becomes impaired from an enfeebled circulation. Elimination by skin and kidneys is reduced, and it is in these cases that rubbing is so powerful for good. We all believe in the paramount usefulness of rubbing in diabetes when the vaso-motor system is enfeebled and the skin dry and harsh. Believe me, the same means is none the less useful in those forms of Bright's diseases where dropsy and impaired blood-crasis demonstrate the need of a perfect circulation and elimination, which shall prevent as far as possible further deterioration. For with the maximum perfection in circulation comes the maximum degree of assimilation. In view of what has been submitted to you, let me say that hospital and private practice has taught the writer that the true object of the physician should be to "cure the patient," not to "treat the disease." Disease is multiform in its method of attack; the plan of defence includes sorties which can be based on no previously-arranged home-office plan of campaign. I would deprecate the teaching of the negative

school of therapeutists. "What can I gain on the denying side? Ice makes no conflagration." If we advance in knowledge only by error, let us ever blunderingly advance.

THE NERVE-ELEMENT IN WHOOPING-COUGH.—Of late years the profession has bestowed very little, if any, serious scientific attention on some of the commonest of common maladies. Whooping-cough is conspicuously among the neglected ills to which, notwithstanding the forgetfulness of the multitude of earnest clinical investigators, flesh is still heir. Many years ago the nerve-element in this troublesome and too often evil-working, if not in itself dangerous, affection, engaged much consideration, and treatment was specially directed to its relief. It would be well if the investigation of this feature of the etiology of the affection could be resumed. The fact that pertussis belongs to the class of maladies which are communicable and "catching" does not take it out of the range of probability that the specific action of a morbid poison on the nerve-centres may be the efficient cause of the disease. Although the fact that the affection occurs rarely more than once in the life of any individual may seem to point more directly to the fertilizing of latent germs in the organism than to any special excitation of the nerve-centres, we do not, as yet, know enough of the *modus operandi* of morbid influences—"germs," or poisons, as we call them—in the blood and tissues to define the part which the nerve-centres play in the production of morbid phenomena. In any case, such relief is frequently obtained, even in the earliest stages of whooping-cough, from mild periodic counter-irritation over the whole length of the spinal column by a mustard-poultice, which merely reddens the skin without vesication, that it would be well worth while to study this method closely from the therapeutic as well as the clinical stand-point. It certainly does good; but how? In cases where the mustard-poultice, applied for six or eight minutes—not longer—over the whole length of the spine immediately before putting the child to bed, every night, for a week, or, in seriously spasmodic cases, a fortnight, does not procure a permanent amelioration of the cough, the effect of this remedy is enhanced by sponging the spine with iced water quickly each successive morning. In cases where the paroxysms of cough seem to be repeated and to continue from sheer exhaustion of the nerve-centres, coffee, administered as a drink, will often stimulate the energy of the centres so as to put an end to the malady. These are practical points which require theoretical explanation.—*The Lancet*, January 28, 1882.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 29, 1882.

EDITORIAL.

THE SEXUAL INSTINCT.

IT is one of the mysteries of human nature that its highest and purest development seems inseparably bound with its lowest and most animal attributes, that that which ministers to its highest joy becomes often the basis of its most unendurable torment, that the source of its tenderest emotions may be the origin of its most damnable brutality. Without the family the nation cannot exist. Without the domestic relation human nature never could have risen to its present fulfilment; and the individual only can reach this on the highest development. The statement may seem almost sacrilegious to one who knows the peace and comfort of a quiet, happy home and has never attempted to analyze the forces which brought that home into being, but nevertheless it is true that the family rests upon sexual instinct, and that if this had not been created so dominant in the character of man, the family would have no existence.

Softness and refinement grow out of that which seems at first purely animal. Without the strong instinct which binds a Hercules captive to the smile of Omphale, life would become as barren of the tendernesses which blossom over it as it now grows foul when the sexual passion is made an instrument of degradation and not a means of elevation.

It is the sheerest folly to shut our eyes to the fact that the sexual instinct is, after all, the master-passion of the race; and the wise physician or legislator should study it, not with the hope of dethroning it, but with that of using it for the best purposes.

There has been some discussion lately as

to the existence or non-existence of this feeling in the human female, and it has been broadly asserted that the American woman does not have it. Such an assertion is, however, preposterous. The woman who does not have such instinct and desire lacks just as much in her nature as does the man when in like manner anomalous. Woman's nature is in this, as in many other points, receptive, not aggressive; but the woman who is thus frigid is unfit for marriage, because she is an imperfect woman. Very properly, the sexual instinct is in the woman before marriage often completely latent, and there are numerous married women whose passions have been only awakened after marriage, and have then seemingly been acquired. There is in some quarters the idea that the purest type of womanhood is passionless; but it is often most important that the physician, with all deference to those possessed of such idea, should clearly understand its incorrectness, and the necessity, under many circumstances, for the woman to increase systematically that which is abnormally undeveloped in her.

In the average man the struggle is to repress, not to stimulate, and above all is it often to be taught that self-control is almost as necessary for the married as for the unmarried. Many a man is physically ruined, many a woman is rendered unhappy, hysterical, and many a household becomes a scene of discontent, through failure in this regard.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on April 12, 1882.

Dr. Heyl read a report of a case of

TRAUMATIC DIPHTHERIA OF THE ORBIT.*

Dr. W. S. Little inquired whether a chill had been observed as ushering in the case, and whether the conjunctiva of the other eye was

* See page 737.

affected. He had usually seen in these cases more constitutional disturbance than had been indicated by Dr. Heyl's description, and thought if the whole conjunctiva were not affected the trouble could not properly be considered diphtheritic.

Dr. Heyl said that the other eye was not affected, and, so far as he knew, there was no chill. Conjunctival diphtheria is rare in the United States. He had seen about two dozen cases. In a number of instances only one eye had been affected. He had never taken the temperature in cases of conjunctival diphtheria, but he did not think that in a diphtheritis of this extent we would expect a higher temperature than had been observed. In tracheal diphtheria the fever did not rise more than one or two degrees higher than noted in this case.

A NEW ARRANGEMENT OF THE BROW-MIRROR.

Dr. Risley presented a new arrangement of the brow-mirror for ear and throat examinations. The mirror is attached,



as usual, to a forehead-pad, which is held in position by a spring passing over the vertex to a similar pad on the occiput and making pressure like an ordinary truss. The mirror is thus held more firmly than by the band, while the pressure is less annoying, and the placing and removing of the instrument are accomplished with less trouble and disarrangement of the hair. The spring adjustment was devised by Dr. J. P. Worrell, of Terre Haute, Indiana, and Dr. Risley had shown it to Mr. Ivan Fox, optician, who has replaced

the somewhat cumbersome semicircular spring by one so jointed that it will fold about the mirror. This adds but little to the bulk of the mirror, while it affords it an excellent protection against breakage in transportation, as will be seen in the accompanying cut.

SCLEROTOMY FOR GLAUCOMA.

Dr. Landesberg said he was the first in this country to call attention to the operation of sclerotomy, and had reported, in the *Philadelphia Medical Times* of October 9, 1880, thirty-five cases of its use. It was an operation which was to be done when iridectomy had been used, and the renewed glaucoma required a second operation; also in absolute glaucoma, when the blind eye requires operation for the relief of pain. In cases of primary glaucoma, iridectomy will be performed, because it has the support of the profession, and failure will be excused; but if sclerotomy should be performed, and bad results then occur, the operator might be blamed for using a new method. Dr. Landesberg had performed sclerotomy in about fifty cases. In the latest case the patient could not count fingers at two feet, and the operation was a perfect success. As to the use of eserine, he had, in an article in the *Philadelphia Medical Times*, August 16, 1879, warned the profession against the extravagant hopes with which the new remedy was hailed by the profession. He had at first good results, but afterwards failure. The temporary relief was misleading; patients would use it in future attacks, and let the disease-action go on increasing until vision has become for the most part irrevocably lost. It should never be given to patients, but, if used at all, should be instilled by the physician in his office. He believed it was being abandoned by eye-surgeons as a substitute for any operative procedure.

Dr. Risley said he agreed with Dr. Landesberg in the opinion that patients with glaucoma should not be allowed to use eserine at will, since it was not safe to rely upon it as a safe means of treating this serious disease. The fact that patients may occasionally learn to use it, without advice, in successive attacks of glaucoma, does not, however, justify the condemnation of its judicious employment.

No ophthalmic surgeon, so far as he knew, regarded eserine as of more than temporary value in the treatment of glaucoma, and it should therefore be employed tentatively until absolute necessity for operative interference is clearly manifest, or for the relief of pain until a convenient time and place for operation could be secured.

THE TREATMENT OF LACHRYMAL OBSTRUCTION BY SOLUBLE STYLES.

Dr. R. J. Levis called attention to the uses and advantages of soluble styles in the treatment of lachrymal obstruction. He said that all who are familiar with the class of cases would admit that the treatment was unsettled

as to method and unsatisfactory as to result. The pain of operation is usually greater than in most ophthalmic work. Years ago he had thought that he might use a soluble style, and thus avoid repeated insertions of the lachrymal probe. Such a style might be dissolved in time by means of the lachrymal fluid, or even by a physiological absorption. At first he had used styles cut from stout sheets of glue, but these dissolved too rapidly, and required renewal. Something was needed which would dissolve more slowly. He had tried dried ox-tendon, and afterwards catgut. These experiments had been made seventeen or eighteen years ago, but subsequently he had abandoned all these materials, and substituted a form of stout raw-hide, using that form prepared by what was known in the trade as the lime-process. It is semi-translucent. This material had been used by him for a long time, and, having been mentioned in reports of his clinic, had received some attention abroad, but apparently not in this country.

Dr. Levis described by diagrams on the blackboard the anatomical relations of the lachrymal duct, and pointed out that the most usual point of obstruction is where the canal enters the bone. Where the opening of the lower canaliculus is patulous, it is his custom to insert a slender knife, and slit up the duct to the bone, and then dilate by a probe; but a piece of the posterior wall of the canaliculus should be removed to keep it from closing. The dilating probe serves as a guide for a grooved director of special construction; the probe is then withdrawn, and the raw-hide style inserted along the groove of the director, which is then withdrawn. The style soon swells decidedly, and becomes soft and flexible. Specimens of the style were shown which had been for several hours in a weak salt solution, and had swollen to about double their original size,—say from No. 6, French catheter size, to No. 3. The advantages of the use of these styles are greater ease of operating and better results. Even a beginner could perform the work with precision if the directions were followed. The operation has rarely to be repeated.

It has not yet been determined how long the styles remain in position in the duct before absorption removes them, but the time must vary with the condition of the parts. If there is caries of the long duct, with suppuration, physiological absorption will be impeded. In the more common condition of catarrhal inflammation, with thickening, the style is probably absorbed within a few weeks. There must also be going on a mechanical disintegration or solution of the style.

Dr. Little said that the difficulty he had found in the use of these styles, or of any style, was that they occluded the duct too completely. He regarded the lachrymal apparatus as requiring as careful handling as

the urethra, and thought that we must avoid using much force or carrying the dilatation too high. The nasal passages, also the larynx and pharynx, should always be examined. He had seen fistula cured by two or three applications of Bowman's probes, rarely going higher than No. 5.

Dr. Schapringer said that he had treated but one case by this method. In that he had not been able to introduce the soluble style with the guide, but had succeeded in getting in the style without the guide. The patient had previously had a Bowman's probe introduced a number of times. After the insertion of the style the patient walked a considerable distance in the country, exposed to a high wind, and contracted erysipelas. After recovery from this the flow of tears was less than before operation, but it had not ceased entirely. He ascribed the erysipelas to the exposure.

Dr. H. Augustus Wilson said he had been much impressed with Dr. Levis's method, not only because of the permanent success by which it was followed, but also on account of the speedy method of establishing a cure. He detailed two cases, in which probes No. 2 and 3 had been used for several months, but without relief. He determined to make a comparison between the dilatation by the larger probes of the Theobald series and the soluble styles. The result was that the soluble styles so far remedied the obstruction that in less than two hours' time the tears ceased to flow over the lids. In ten days a large probe (No. 13 in one case, and in another a No. 15) was passed without difficulty, proving that the style was either so soft as not to offer any impediment or else had entirely disappeared. He thought that in cases of lachrymal obstruction the surgeon is too often satisfied when he succeeds in passing a No. 1 or No. 2 probe. It would be as well to say that a stricture of the uretha is cured by simply passing a filiform bougie a couple of times a week.

Dr. Risley said that although the majority of cases of lachrymal obstruction recover under careful treatment, there nevertheless remain a large number that are only partially relieved or not at all benefited by the ordinary probing of the duct. Any treatment which would relieve or cure these cases would certainly be a great boon. He had had no experience in the method proposed by Dr. Levis, but thought there were certain theoretical objections to be urged against it, especially when attempted by less skilful persons than Dr. Levis. The theory upon which it is based is radically different from that underlying the method pursued by some other surgeons. It is to be borne in mind that the lachrymal duct, although a drainage-tube, is not an open waste-pipe through which the tears run down to the nose. When closed by a thickening of its mucous lining, particularly in the bony duct, he did not think the best mode of treatment is by a forcible dilatation

or rupture of the closure, as in stricture of the urethra. The anatomical relations are different. The inflamed mucous membrane lining the nasal duct is usually friable and readily torn, and the probe, under any but the most gentle handling, is readily thrust through the membrane, and made to pass downward between the mucous membrane and the bony walls, an accident which he had learned to deprecate, since it was quite sure to make the obstruction worse, and the case subsequently more difficult to treat.

The soluble style shown by Dr. Levis is about the size of No. 6 or No. 8 of the Bowman's series of probes, so that the conical grooved director upon which this is inserted is large enough to rupture the mucous membrane at the side of the stricture. It is to be remembered that in the dried skull the nasal duct is a canal with sinuous walls, the projecting points of bone lessening very much the general calibre of the duct. A few trials had shown him that in some dried preparations the bony duct would not permit the passage of even the medium-sized probes recently suggested by Dr. Theobald. When covered by the soft tissues, the calibre is, of course, still less. It seemed to him that harm is liable to result from the endeavor, in any but the most experienced hands, to force a dilator through a duct with such anatomical peculiarities.

The theory upon which his own treatment of lachrymal obstruction had been based was pressure rather than forcible dilatation. A probe is passed with great care, sufficiently large to require only gentle pressure, the requirement being that it should fit the stricture tightly. It is allowed to remain for ten or twenty minutes, at the end of which time there will usually be felt by the patient a sense of constriction and throbbing at the site of the stricture. The probe will then be found firmly gripped by the tissues, so that the force required to remove it will often be equal to or greater than that used to insert it. When treated in this manner, the insertion is not a very painful proceeding, so that patients submit without hesitation to its repetition once or twice weekly. At each insertion the tissues are subjected to firm and protracted pressure between the walls of the duct and the probe, and the thickening of the tissues undergoes absorption, as in the case of the indurated borders of a leg-ulcer under the process of strapping.

Dr. Laurence Turnbull stated that he could confirm Dr. Risley's observations and experiments upon the dried skull, as the doctor was kind enough to show him at the time that probes larger than Bowman's No. 6 were in a great majority of cases too large to enter or pass through the narrow portion of the lachrymal canal. He would also caution the younger members who were devoting themselves to

ophthalmology not to be too sanguine of performing a cure, as he himself, after a long experience, had cases of improvement, but rarely a perfect restoration or absolute cure. He would desire to know if any of them had a perfect cure. Was it not so that, after long efforts and the No. 5 and 6 would pass readily, on exposure to cold winds the tears would still flow over the cheek? As to probes of the sizes of 12 or 13, he never would use them or attempt to use them, as they are apt to be followed by erysipelas, abscess, or periostitis. The greatest improvement in the treatment of all forms of lachrymal obstruction is the relief of the tension of the sac or canaliculi by slitting up either the upper or the lower canaliculus with a "Weber's knife;" and after the inflammation has subsided, if the duct has not become patulous, Bowman's probes should be passed through the duct down to the nose. These probes, which usually come from the shop straight, should be bent to a curve before being introduced: if a stricture of the duct should be detected, it should be freely divided, and probing should be carried on with gentleness and care. He further remarked that Dr. Levis's method of introducing a director and then a style in the beginning, as a No. 6, seems to us a return to the old method, in which all kinds of styles were employed, of lead, iron, silver, etc., in which so many of the cases were not only left no better, but, in many instances, with a permanent disease of bone and a fistulous opening as a deformity.

In closing the discussion, Dr. Levis said, in answer to a question, that the function of the duct is to carry off the majority of the tears, and therefore if such function is restored the cure is complete. The insertion of the style does not entirely occlude the duct: the tears will still flow down by capillary attraction.

A CLINICAL meeting of the Society was held at the Hall of the Society on April 19, 1882.

SPONTANEOUS FISSURE AND EXPULSION OF PORTIONS OF A LARGE VESICAL CALCULUS.

Dr. C. H. Thomas detailed the following case. The patient was a man aged about 35, who, during the year 1876, sent for him in consequence of difficulty in passing urine, which was found to be due to the impaction of pieces of calculus in the urethra. Dr. Thomas succeeded, by means of various instruments taken from his pocket-case and therefore not perfectly adapted to the case, in getting out the pieces. He was twice called to see the patient laboring under the same difficulty, and on the last occasion it took from half an hour to an hour to get all the pieces removed. He advised that the operation of crushing and rapid evacuation by

Bigelow's method should be performed, and after a long delay the patient consented, but had as yet declined to fix a date. As cystitis exists, and the condition is doing serious injury to the general health, it seems probable that the patient might delay the operation until a successful result would be doubtful. A careful examination of the pieces which had been extracted, and which have been preserved, showed that they were probably fragments of one large ovoidal calculus or of two calculi, one about an inch in diameter, the other about two inches. Some of the pieces showed two layers: one brick-red, the other rather chalky,—this latter being the exterior. A chemical analysis had been made by Dr. Leffmann.

Dr. Leffmann said that the pieces were mixtures of urates, phosphates, and a small amount of oxalates. Usually such mixtures contained the urates as the nucleus and the phosphates as encrusting materials, and such was probably the case here; but he had only a few small fragments, and could not verify the fact. The larger pieces shown by Dr. Thomas this evening bore out this view decidedly. The spontaneous fracture was probably due to the irregular composition. It would seem likely that a calculus composed of several distinct substances would have less cohesive power than one of uniform composition. Cases of spontaneous fissure were not unknown: one had been described and figured by Beale, of London.

Dr. Packard said that the case seemed to him more suited for lithotomy than lithotomy, to which latter operation the cystitis was a contra-indication. On the other hand, cystotomy is a recognized method of treating cystitis, and would be allowable here, and, taking into consideration the obvious irregularity of the stone, its tendency to break up, and the irritation of the bladder, the operation of crushing, even under the improved method, would scarcely seem advisable. If lithotomy should be performed, he would not hesitate to keep the wound open for some time, if necessary to relieve the inflamed bladder.

APPARATUS FOR METALLO-THERAPY.

Dr. Blackwood exhibited a set of Burg's metallo-therapy disks, obtained through a Parisian electrician, and made some remarks on the subject, stating it to be his belief that all effects from strapping on these so-called "armatures" were merely imaginary. The patients supposed to be benefited by such impressions are hysterical cases, and neither their statements nor their apparent symptoms can be strictly relied on. These small plates exert no electrical effect under any circumstances, nor can they modify the electrical condition of the body, and they should be classed by honest neurologists with analogous humbugs, such as liver-pads, electric medals, and health-renewing suspensories.

DISCUSSION ON RESORCIN AND CHINOLINE.

Dr. Burnett made some remarks upon the treatment of ear diseases by insufflation of powders containing chinoline and resorcin, and presented several specimens for examination.

Dr. O'Hara said that chinoline tartrate had been recommended on account of taste as a suitable substitute for quinine, especially with children, but a sample which he had tasted was certainly much more disagreeable than quinine, and he would not use it.

Dr. Harlan said he had used resorcin for insufflation, but, as it absorbs water and becomes somewhat heavy, he preferred to use it mixed with about twice its weight of boracic acid. It was then very satisfactory.

Dr. Schapringer learned some time ago that the price of chinoline tartrate is about five dollars per pound.

Dr. Woodbury said that the first specimens of the chinoline salts which were imported were contaminated with the free alkaloid, which is an oily liquid, very offensive to the taste and smell. The later specimens are better made, but even the pure salts are not pleasant. Peppermint had been advised as a means of concealing the taste. In reference to the use of various powders in insufflation, he thought that an admixture of fine talc, such as is used in dusting the skin of infants, would be found useful to dilute the powders where it is not desirable to use them in full strength: he thought it superior to substances of a starchy nature for this purpose, for obvious reasons.

Dr. Burnett said that undoubtedly boracic acid would be an advisable addition to resorcin, but in determining the nature of a remedy he preferred to use it pure, so as to get a trustworthy result. Resorcin owed its virtues to its bactericide powers. Its price was \$1.75 per ounce. Some few persons cannot bear the odor of chinoline salicylate, but the vast majority do not mind it: in no case is it so disagreeable as iodofrom. Talc had often been used as a drying powder in ear-troubles, especially in English practice, but he did not think it safe to put an insoluble substance into the ear, and therefore would not use it.

DISCUSSION ON RENAL ASTHMA.

Dr. Packard reported a case of death from renal asthma (see page 740), in which ether had been administered. He inquired if the ether might have hastened death.

Dr. Harlan said that in the last number of the Transactions of the American Ophthalmological Society Dr. Wm. F. Norris had reported three cases of death from inhalation of ether in patients affected with kidney disease. The fatal result was not immediate, but the patients never fully rallied from the anaesthetic. He knew of no other statistics bearing upon the subject. Ether was almost

universally used in ophthalmological practice in this country.

Dr. Laurence Turnbull stated that in the Transactions of the American Medical Association for 1880 he had published that affections of the kidney made the use of anaesthetics highly dangerous. He had noted in this communication about eight cases of fatal results from this cause, and he wished to call public attention to the danger, as the subject had not received the consideration which its importance demands. Ether was especially noted as a cause of death in these cases, and the administration of ethyl bromide in this city, also in New York, had been attended by fatal result in two patients affected with kidney disease. Dr. Emmett, of New York, had called the attention of the profession to this subject in 1863, and subsequently recorded a number of cases, and had furnished the details of these to Dr. Turnbull, which will be published in a paper he is preparing.

Dr. Schapirger, referring to the second authority quoted by Dr. Packard, inquired if Dr. Packard would not, in a similar case in the future, use chloroform in preference to ether.

Dr. Parish said that the danger of ether in kidney disease was of great importance, on account of the frequent use of it in those who have kidney-trouble. It was largely used, for instance, in puerperal convulsions, which are often dependent upon or associated with kidney disease. He had seen several deaths in such cases, in which ether had been used for some hours, but he had also seen recoveries after using ether as well as recoveries without its use. What is needed is more extended statistical information. He would like to know whether any case had been recorded in which Bright's disease caused death during the use of chloroform.

Dr. C. H. Thomas referred to the case of a lady whom he had been suddenly called to see while she was suffering from a puerperal convolution. He had seen her but once previously. She presented evidences of albuminuria, such as dropsy of hands and feet and eyelids. At the time when he was sent for she was in the seventh month of pregnancy. He used ether at once, under the opinion that it was harmless, while chloroform was dangerous. This opinion he had since come to believe erroneous, but it was very firmly fixed in his mind at that time. He tested a sample of the patient's urine, and found it highly albuminous. About half a minute after beginning to administer the ether, the patient's face became blue, her respiration became shallow, and she died within about three hours, in spite of all efforts at resuscitation. He had always blamed the ether for this death, as the convulsions had been too slight and too few in number to cause it.

Dr. A. H. Smith said he was well satisfied that ether is contra-indicated in cases of

kidney disease. In the earlier part of his use of anaesthetics in obstetric practice he had regarded ether as much preferable to chloroform; but experience had compelled him to reverse the preference. He had seen patients with uræmia in pregnancy go into a convulsion while under ether, but not under chloroform, and he always uses the latter now where renal troubles exist. Everything tended to show that we have overrated the safeness of ether and underrated the advantages of chloroform, especially when the latter is perfectly pure. Anaesthesia is always attended with risk, but is least so when a *chemically pure* anaesthetic is used, in the hands of a conscientious and vigilant administrator: without these conditions life may be lost through the effect of any anaesthetic, and with it everything goes to prove that there is as little danger in one as in another.

Dr. John B. Roberts said that the facts were not all given in the history of the case. In his opinion, this was not a case of death from ether, but of death during the use of ether, and associated with a suspicion of kidney disease. Had it been established by any prior examination that the kidney was diseased? In regard to the comparison between the safety of ether and chloroform, it must be remembered that ether, enjoying the reputation of harmlessness, is often given without proper care, but that chloroform is always used with a sense of the dangers which attend it. Many surgeons give ether without proper examination of the patient: for instance, not examining the urine. Ether probably taxes the excretory power of the kidneys more than chloroform, because given in much larger quantity: hence if the kidneys are diseased it may cause dangerous symptoms. When, however, we see hundreds of patients etherized without strict attention to their condition, and yet so few deaths, we should not hastily condemn the remedy. In reference to the condition known as renal asthma, he hoped more information would be given, because it is an important topic, of greater novelty than the dangers of anaesthetics, which have been repeatedly discussed in the meetings of the Society.

Dr. Woodbury said that there was a topic suggested by the remarks just made upon Dr. Packard's interesting case which deserved especial mention. He referred to the difference in anaesthetic agents where used in practical medicine from their use in surgery. Ether, which perfectly resembles alcohol in its action upon animals, has a well-known primary stage of stimulation to the circulation, as well as to the nervous and muscular systems; and in medical practice, hypodermic injections of ether are valuable to stimulate the heart and avert threatened collapse, and in obstetrics they are also employed to produce contraction of the uterus. The full physiological dose of ether produces a deep coma, just like alcoholic coma. Where this

full anæsthetic effect is required, its action is favored by the conjoint or previous administration of alcohol. When death is caused by either agent, it is due to paralysis of respiration and its consequences; therefore, when the lungs are already crippled and ether administered, a fatal result may occur more readily.

In explanation of the greater danger of chloroform over ether, he said that in the physiological process of respiration the air-cells have their contents renewed mainly on the principle of the diffusion of gases; the inhalation of a heavy vapor causes suffocation because it diffuses so slowly that it shuts off the supply of oxygen from the blood. Other things being equal, the danger of an anæsthetic is directly proportional to the density of its vapor;* but chloroform has an additional element of danger from its paralyzing effect on the heart. In a case such as the one reported, in which the fatal result was probably not directly attributable to the treatment pursued, he thought that ether would have been better than chloroform; but he believed that the nitrite of amyl in such cases, of which he had seen several, offered better prospects of relief than any other agent, and he urged its further trial. It is well known that anæsthetics are more dangerous in Bright's disease, because the blood is loaded with waste matter, and the oxygen-carrying function of the red blood-corpuscle is reduced below the normal; the vitality of such individuals is so low that a slight impulse may turn the scale against them. Paget refuses to operate surgically in cases of albuminuria. Certainly in all cases, before operation in our hospitals or private practice, this examination should be made, so that the surgeon may be made aware of the existence of an element of added risk. He was sorry to learn from a preceding speaker that this is not customary in Philadelphia: he knew it to be the rule in leading hospitals in other cities. In strong, healthy individuals, chloroform may be given without very great risk, if skilfully administered; but where the heart or the kidneys are at all damaged, ether is incomparably the safer anæsthetic.

Dr. O'Hara said that chloroform may safely be given in convulsions accompanying pregnancy with high arterial tension, but not in chronic affections, like that detailed by Dr. Packard, where blood and tissues are degenerated. The former are temporary troubles; in the latter there are prominent progressive changes, especially in the heart. Chloroform acts upon the heart, and in chronic Bright's disease all the tissues are weakened.

Dr. A. V. Meigs said that renal asthma is of more frequent occurrence than is commonly supposed. He had seen cases in which the first intimation of the kidney-trouble was an

attack of violent oppression, perhaps during the night. In two such cases death had resulted rapidly; in others life had been prolonged for years. He had seen ether used frequently, perhaps twenty times, when kidney disease was known to exist, and without visible bad result. It should be remembered that a comparison of the use of ether in uræmic convulsions occurring in Bright's disease with ordinary puerperal convulsions cannot be made as parallel cases, for in the one instance the lesion of the kidney is often of old standing, and the alteration of structure great, whereas in the other there is generally, at worst, only a temporary congestion, which usually tends to recovery as soon as the pregnancy is over.

Dr. Packard, in closing the discussion, said that it was important to get an experience as large as possible, and from a wide range of cases. One of the speakers has stated that he uses chloroform entirely in obstetric practice. So far as Dr. Packard knew, no case of death from the use of chloroform in labor or puerperal convulsions is on record. He himself had given ether very freely, with entire success, in cases of convulsions, and especially in one, the worst he had ever seen. As to the relative safety of ether and chloroform in obstetric practice, obstetricians must decide, but surgeons may have to consider the case differently. No instance is recorded in which in a healthy person, or one apparently so, death has suddenly occurred just as the administration of the ether was begun; but many such deaths from chloroform are on record. Ether is given with too little thought in many cases. A general idea prevailing among less experienced surgeons that it is entirely safe, many are led to give it without proper inquiry as to the contra-indications, such as the condition of the kidney. In emergency we cannot always make such inquiry, but it should always be made in cases of deliberation. Whether in a case of known disease of the kidney we should use chloroform in preference to ether is an open question. In the case detailed, the ether was most carefully given; the man was dying from spasm of the bronchial tubes, and Dr. Packard thought ether was indicated. He might have used chloroform if he had considered all the points brought out by the discussion. Dr. Harlan had informed him that in the cases reported by Dr. Norris, and alluded to in the early part of the discussion, death had occurred in from a few days to two or three weeks after the operation. It did not seem to him a clear inference that the ether had caused the fatal result. Patients often say that the effects of the ether remain, and we hear it said that this or that person has never felt well since taking ether. More facts are needed before we can decide the points which have been here discussed.

Dr. Packard reported a

* See article by Dr. Wm. H. Greene in the *American Journal of the Medical Sciences* for April, 1882.

CASE OF RECURRENT GREEN VOMITING AND PURGING—ALSO CASE OF SUPPOSED POISONING BY MERCURY SULPHOCYANATE.

Dr. O'Hara detailed a case in which a child of four years had swallowed a copper cent, and about two months afterwards a second one. Neither coin was discovered, and, as the child began to be subject to fortnightly attacks of gastric pain, with purging and vomiting of green-colored matter, he suspected that the coins were still not passed from the bowel. An examination of the vomit made by him showed numerous epithelial casts of the gastric tubules, and he subsequently had a chemical examination made. Dr. Seiler had made an extended microscopic examination, and had found chlorophyll granules, indicating that the green color was due to vegetable matter, and on inquiry it was found that the child ate frequently of green celery-tops. Dr. O'Hara also detailed a case in which half a box of the toy preparation called "Pharaoh's Serpent Eggs" were eaten by a child. No bad symptoms followed, and it appeared that the eggs were passed by the bowels broken up through the passage. He had used almond oil in treatment.

Dr. Leffmann said that he had made a chemical examination of the green vomit in the first case detailed by Dr. O'Hara, and had failed to find any metallic poison, nor was the color due to biliousness. He had no doubt that Dr. Seiler's microscopic result explained the case. Such cases are uncommon, and have no significance in a toxicological point of view. In reference to the "Pharaoh's Serpent Eggs," they were, chemically, mercury sulphocyanate, and were insoluble in water. If dissolved in the stomach they would probably give rise to symptoms analogous to those of corrosive sublimate.

Dr. Schaprirger called attention to a case reported by him to the Society some time ago, in which a peculiar-looking yellow substance expelled by the bowels was found to be parts of an orange.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on April 26, 1882.

CASE OF ICHTHYOSIS.

Dr. Schaprirger exhibited a case of ichthyosis. He said that the case was a mild one, and might be termed one of xeroderma according to Tilbury Fox. This author uses the designations "xeroderma" and "ichthyosis" for two different degrees of one and the same affection. Dr. Schaprirger thought the first term unnecessary, and would designate the case exhibited as one of *ichthyosis of the first degree*.

The case was then examined by the members present.

Dr. M. S. French said that he had seen another case of ichthyosis,—that of a man travelling with a show and exhibited as a "man-fish." The disease was developed in a greater degree than in the patient now shown, the scales being much larger and more abundant. The disease is regarded as being congenital, and is but little amenable to treatment. Hebra describes four cases, and recommends baths of warm oil after the use of a potash soap.

Dr. Shoemaker said the case was a typical one, showing the well-known scales and the hypertrophied skin. The treatment was very unsatisfactory. He had formerly used oils and baths, but had now settled down to applying a soap of which each cake is composed of one drachm of precipitated sulphur, two drachms of powdered German chamomile-flower, and equal parts of olive oil and oil of theobroma, together with enough caustic soda to saponify. This is used every second or third day to remove the scales, followed by inunction with a mixture composed of equal parts of olive oil and ergot oil. Such treatment has given the best results, but he had never seen a case cured.

Dr. M. Landesberg presented a communication detailing some accidents from the use of jaborandi and pilocarpine in diseases of the eye (see page 741).

DISCUSSION ON THE ACTION OF PILOCARPINE AND JABORANDI.

Dr. Blackwood said that if the retina was detached, it could not be the cause of the cataract, as, if so, we should expect the disease of the lens to have been already developed. He did not think jaborandi and pilocarpine adapted for use in diseases of the eye. He had used these remedies very much in various diseases, but had never seen any eye-trouble arise from them.

Dr. Schaprirger referred to cataract produced by chronic poisoning with ergot of rye, and to cataract produced experimentally in animals by the subcutaneous injection of grape sugar and other substances, and said that it might be considered doubtful whether the jaborandi was the cause of the lens-trouble in the cases just described, in view of the fact that detachment of the retina also existed, a condition which was generally followed by partial or complete cataract. As to cataract in horses, it would be interesting to know whether cataract in horses did not occur often in consequence of just such choroidal mischief as was present, and perhaps was the cause of the consequent turbidity of the lens, in the case related by Dr. Landesberg.

Dr. Landesberg said that affections of the uveal tract, and detachments of the retina, are frequent causes of cataract, but he could not give the full statistics at present. He had seen many cases of retinal detachment in which the lens remained clear, although watched for many years. In others the

cataract occurs, but he had not heretofore observed such rapid development and maturing as in the cases detailed. Experiment had been made of producing cataract by injection of solution of salt, and then by putting the animal in fresh water the lens would be restored to a clear condition. Similar experiments had been performed with other substances of water-attracting power, such as sodium sulphate, introduced either into the stomach or under the skin, or directly in contact with the eye. The cataract would be developed, and would disappear when the animal was kept in fresh water. Perhaps pilocarpine acts like these substances. He had used it in over a hundred cases of eye disease, and had never seen any untoward results except the five cases detailed, and he had never heard of other cases. He had seen but one case of cataract in the horse following the use of pilocarpine. All the cases noted were treated with pilocarpine, or with jaborandi, on account of the existence of detachment of the retina, for which disease it is an appropriate remedy, because we have to deal with a serous effusion. A few cases do not suffice to establish an opinion as to its action, and he thought that its use is not dangerous. Children especially bear large doses very well; in adults the only bad effect is a little gastric catarrh. It is not a specific for the retinal disease, but is a good remedy.

THE OLEATES IN SKIN DISEASES.

Dr. Shoemaker exhibited specimens of the chemically pure oleates, and spoke briefly of their therapeutic actions.

He observed that the oleates, as he had here exhibited, are of a staple character, and greatly different from the oleic solutions that have been heretofore used. To speak of a five or ten per cent. oleate is as absurd as to speak of a five or ten per cent. sulphate of quinia or atropia, which we know to be compounds of a definite character. These oleates were manufactured by Dr. Lawrence Wolff, of this city, who has found the best and most ready method for preparing oleates by the double decomposition of sodium oleate with solutions of neutral salts.

He then showed oleate of mercury, and also ointments thereof, of 25 and 50 per cent., containing respectively one part oleate to three parts lard in the former, and equal parts in the latter. Therapeutically, it is a local stimulant and alterative; and he has used it with success in the inunction treatment of syphilis, in indurations after abscesses, in excess and deficiency of pigment, in indolent papules, in tubercles, in obstinate ulcers, in cases of enlarged testicle, and in all forms of vegetable parasite, in phtheiriasis, or lousiness, and also in chronic acne and eczema.

He then exhibited oleate of zinc, which he uses in dry impalpable powder or in an ointment. He uses it dusted over denuded sur-

faces in hyperidrosis and osmidrosis. It is most valuable in eczema vesiculosum and in erythema about the groins and axillæ. In herpes, particularly of the genitals, it will cling to the skin, and will not brush or fall off like ordinary dusting-powders.

The oleate of lead he uses in pustular eczema for the itching that is so annoying to the young infants, and in papular eczema, especially that variety found in the flexures of the joints, around the axillæ, and inner parts of thighs and perineum. It is useful in simple lichen, in acne rosacea, and in the fissured form of eczema present on the palmar and plantar surfaces. Combined with sulphur, scabies, or itch, yields more promptly than to other ointments. Oleate of copper mixed with lard forms the ointment of the oleate of copper, which with the unbroken skin produces slight stimulation; with broken skin it stimulates and forms an insoluble albuminate. The most successful results he has had with the ointment of this oleate of copper have been in rapidly curing cases of ringworm of the scalp, as well as of the body. He also uses it for indolent ulcerating surfaces, as well as on hard and horny warts, corns, and bunions.

Oleate of aluminium, when mixed with equal parts of lard, gives the ointment which he uses in checking the muco-purulent discharges that occur in one of the varieties of eczema. He has employed it with success as a dressing in foul ulcers, abscesses, sinuses, burns, and scalds.

Oleate of bismuth is prepared in the form of ointment, which he uses pure in pustular eruptions, particularly sycosis. It is efficacious in superficial erysipelas and in sunburn, also in certain varieties of eczema, especially the papular. In rosacea it is especially useful. He has used it smeared on a sound in subacute gonorrhœa and gleet, with success.

The oleate of iron was shown, as well as the ointment of the oleate, containing equal parts of the oleate and fatty base. The ointment is free from irritation used topically, but upon an ulcerating surface it is mildly astringent. He uses it for a constitutional as well as a local effect in anaemia, scrofula, etc.

The oleate of arsenic is in the form of a precipitate, twenty grains of which, added to one ounce of lard, form the ointment he exhibited. It has no action on the skin except when abraded; in wounds, or ulcerating and granulating surfaces, it excites active inflammation. He uses it in lupus, in epithelioma, on warts, condylomata, nævi, corns, horns, and old granulations.

The oleate of silver is in the form of a fine powder, which, sprinkled over old chronic ulcers, bed-sores, and exuberant granulations, will set up a healthier state of the parts. The best effect, however, he obtains from the ointment containing one drachm to the ounce of fatty base. He uses it in erysipelas, lupus,

boils, and carbuncles, and often arrests suppuration.

An intolerable itching of the meatus auditorius, the anus, and the genitalia may often be quickly relieved by applying the ointment, either alone, or combined with opium, belladonna, or the like.

Dr. Shoemaker then exhibited the oleates of quinine, morphia, atropia, magnesiuim, lithium, calcium, antimony, tin, etc., which are at present of little therapeutic value so far as dermic medication is concerned, and are mentioned only for the benefit they may ultimately prove to possess for internal exhibition.

He recommends the oleates for the following advantages which they possess over the ordinary ointments: first, their deep penetration; secondly, their freedom from rancidity; thirdly, their cleanliness of application; fourthly, their great economy; and, fifthly, their antiseptic action.

A great drawback is the lack of knowledge that the majority of pharmaceutical chemists have, at the present time, of their manufacture, and he directs that you always examine their products, and see that they possess all the physical properties he has shown by the most excellent specimens of true and staple oleates.

Dr. Leffmann said that while he had no opinion to express as to the therapeutic value of the chlorinated oil, he desired to say that, according to his experiments it did not contain any free chlorine or muratic acid. He had examined a specimen with care, and from the general value of the action of chlorine in these cases, and from a reference to some of the authorities, he had no doubt that the chlorine all existed in substitution for the hydrogen in the original oil, and the substance could not be supposed to contain chlorine in the ordinary active condition.

Dr. Shoemaker, in answer to a question, said that the odor of the oleates had given no trouble in practice, as only a small quantity was required at one time, and they were rapidly absorbed. In reference to the chemical composition of the *oleum chlorinatum*, he had not examined it, and was not prepared to speak, and, indeed, the point as to whether it did or did not contain free chlorine was of little importance: he had brought it before the Society as a therapeutic article, and not for its chemical character. He had been given to understand by the chemist, Dr. Wolff, who prepared it, that this particular sample contained about fifty per cent. of chlorine in chemical combination.

A CLINICAL meeting of the Society was held at the Hall of the Society on May 17, 1882.

ABDOMINAL CANCER.

Dr. J. M. Keating exhibited a specimen of abdominal cancer, and detailed the follow-

ing clinical history. The patient, a woman, 60 years old, had been strong and always in good health up to nine months ago, when the abdomen began to enlarge and become painful. Dr. Keating was consulted, and, finding the enlargement and pain increasing, he decided, after consultation with Dr. Agnew, to make an effort to draw some of the fluid. About two gallons of a fluid like ovarian fluid, but lacking the characteristic cells, were removed. It contained epithelial cells and blood-corpuscles. The tumor was evidently cystic. It was judged that no uterine or rectal cancer existed. The urine was not affected, but vomiting, constipation, and a peculiar drawing pain were noticed among the symptoms. The patient had died a few days ago of asthenia. The post-mortem showed the abdomen distended by a large amount of fluid not ovarian, but encysted ascites. The bladder was attached to the peritoneum, which was injected, and showed numerous cancerous nodules, exhibiting all known varieties of cancer. The bladder was completely cancerous. The liver and kidney were highly fatty, and showed a few cancerous deposits on the outer surface. The uterus had a schirrous mass about the size of a marble within its wall. The patient's family history presented no indication of cancer, and the remarkable point was the entire *absence of disturbance* of the flow of urine, although the bladder was so completely diseased.

Dr. Parish recalled a case he had seen last summer, in which he had made a diagnosis of cancer in close proximity to the uterus, though not involving that organ, except to fix it by adhesions, and not presenting the symptoms of cancer of the uterus. The case had begun with a metritis following abortion; this got apparently well, but was followed by a tumor and pain in the right iliac region. Subsequently he aspirated a small cyst through the vagina. The patient died after the development of symptoms of cancer of the stomach.

Dr. Nancrede alluded to the absence of urinary symptoms in the case under discussion, and mentioned a case he had seen in which calcification of the internal coat of the bladder had progressed so far that it was almost like a parchment bag, and it seemed as if it could not possibly contract efficiently, yet no indication of the condition had been given during life.

PATHOLOGICAL SPECIMENS.

Dr. Schaprirger exhibited some pathological specimens, including a calcareous concretion which had been expelled by coughing and which looked like a cast of a bronchus. He also showed a specimen of the itch insect.

DISCUSSION ON THE EFFECTS OF RETAINED PLACENTA.

Dr. Horace Ladd said he was much interested in the paper of Dr. Parish, and con-

sidered it an admirably expressed *résumé* of what had been his own experience. He always preferred his fingers to any instrumental appliance for the removal of adherent placenta, where he can possibly accomplish that indispensable end therewith.

Dr. Montgomery said he heartily endorsed the views advanced by Dr. Parish, and in his own practice never allowed the placenta or any portion of it to remain. Its retention prevents the proper contraction of the uterus, keeps open the sinuses, thus affording ready entrance for the septic poison, and by its decomposition affords the septic material. He instanced cases of puerperal septicaemia resulting from retained placenta.

SPECIMENS OF HYDROCEPHALUS.

Dr. Lodor exhibited a greatly enlarged head, apparently hydrocephalous: the subject was evidently about 20 years of age. The skull was of very unequal thickness, being in some places as thin as paper, and at other places over an inch thick. The base showed striking irregularities. Dr. Bruen, on behalf of Dr. Musser, showed a brain from a hydrocephalic case.

AORTIC ANEURISM.

A patient suffering from aneurism of the aortic arch was exhibited by Dr. Deaver.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on May 24, 1882.

DISCUSSION ON THERAPEUTIC DOSAGE.

Dr. O'Hara said that the paper contained many points of interest, and should be briefed and placed in the hands of every member during the discussion; but he thought physicians were frequently deceived as to the value of remedies, and instanced a case which seemed to indicate the value of hyoscyamus in muscular tremors; but it was afterwards discovered that these tremors were due to heat-exhaustion, and improvement in the case occurred on the setting in of cool weather. Dr. O'Hara also called attention to the fact that calomel would salivate, while corrosive sublimate would hardly do so. The paper embraced matters which would require intimate acquaintance with physiology and neuropathology, and every element of personal fallacy in judgment ought to be sought for, so as to avoid the "*post hoc ergo propter hoc.*"

Dr. Bartholow said that he had expected that the paper would take a wider range. He called attention to the society recently formed in Paris which gave special attention to the "dosimetric system." In reference to the use of potassium iodide, it had been his experience that large doses were necessary in aneurism and syphilis. The drug was eliminated so rapidly that these large doses were

required to secure the thorough impression or saturation of the system, as it is one of the most diffusible of agents. He agreed with Dr. O'Hara that calomel will salivate, while the corrosive chloride will rarely do so.

Dr. Blackwood remarked that calomel, in relieving the so-called bilious derangement commonly met in summer, could not act in homœopathic doses; but it did in the case of one-eighth to one-twelfth of a grain, hourly repeated, the stools soon becoming in most cases liquid.

Dr. Geo. Hamilton referred to the want of conformity, or rather the antagonism, in the action of large and small doses of calomel in cholera or diarrhoea, and in illustration cited the case of a strong, healthy woman, who had been treated during two days by astringents, anodynes, and minute doses of calomel and opium, for the arrest of a violent attack of cholera, but without benefit. The discharges had become almost colorless, and often compelled the patient to use the commode every ten or fifteen minutes, so that she was well-nigh exhausted. In consultation, the late Dr. Gebhard advised Dr. H. that this treatment be abandoned, and that from twelve to eighteen grains of calomel, in a single dose, should be given. In accordance with this proposition, twelve grains were at once taken, and with such effect that the patient had neither purging nor vomiting until ten hours after the dose was taken; at the second stool bilious matter reappeared, and thus all anxiety about the case was removed.

In somewhat singular contrast with this action of a large dose, Dr. Hamilton had found that in not a few cases a very minute portion of calomel sufficed to act as a purgative, so that he had not seldom obtained this effect from a single grain, divided into six parts, with sugar, placed upon the tongue every hour or two, followed by a spoonful of water.

In closing the debate, Dr. Bruen said that his remarks could not as yet be generalized so as to include a law for the universal use of alteratives in given dose. His position was that, since an alterative must modify constructive growth or hasten retrograde metamorphosis, he thought Gubler's definition more happy than most theoretical statements. The system must be saturated with a drug. Undoubtedly some drugs are rapidly eliminated, but he claimed a trial for the slow continuous impression of the tissues when it is desired to modify their organic structure or their functional life. It is analogous to the use of food as a renewer of life.

His experience was that small doses of calomel would salivate more rapidly than small doses of corrosive sublimate, and in this he coincided with Dr. O'Hara; but he had found that in one-fiftieth grain doses salivation had not occurred often, although sometimes this effect was produced. In a

one-fiftieth grain dose of calomel he thought that probably the constitutional effect was about equal to that of the allied drug; but calomel was less irritating, in his experience, and therefore was to be preferred.

In reply to Dr. Hamilton, he called attention to the fact that his paper did not discuss the use of calomel as a purgative.

In reply to Dr. Lee, relative to the frequency with which the doses are advised, Dr. Bruen said he gave the iodide of potassium but once daily, the calomel three or four times daily.

REVIEWS AND BOOK NOTICES.

ELECTRICITY IN SURGERY. By JOHN BUTLER, M.D. Pp. 111. Philadelphia, Boericke & Tafel, 1882.

This latest monograph on electro-surgery is a small book, but it contains much that is valuable, and yet little really new. If one point alone insisted upon—that of definite current measurement—is carefully studied by purchasers of the volume, it will repay them and their patients, and will do much towards setting the judicious use of electricity upon a scientific basis. Nearly all failures in electro-therapeutics are attributable to improper dosage, and attention to this matter is just as necessary as it would be with strychnia or curare. The author is enthusiastic, but the book is a good one, and will repay perusal.

W. R. D. B.

AN INDEX OF SURGERY. By C. B. KEETLEY, F.R.C.S. Published by William Wood & Co., New York.

This book of three hundred octavo pages presents to the reader what may be considered the notes of an intelligent, observing, and critical listener,—one who has diligently followed his teachers through the wards of the hospital, and patiently heard theories and doctrines discussed in the lecture-room. There is found throughout its pages a concise synopsis of surgery as taught in the English schools at the present time. The book is intended by its author as a help for senior students at their final examination, and also as a reference for the practitioner. It is not to take the place of the text-book or the manual, and does not pretend to teach surgery, but to act as a stimulant to previously-acquired knowledge. Such being the object of the book, and if used for this purpose only, it is a work well done; but, unfortunately, this class of books is too frequently employed as a short cut to knowledge, and hinders in a great degree that solid foundation only to be obtained by a thorough course of study.

J. H. C. S.

JOHNS HOPKINS HOSPITAL is about half finished, and, according to a correspondent of the *Boston Medical and Surgical Journal*, it will require about six years longer before patients can be admitted.

GLEANINGS FROM EXCHANGES.

NEPHRECTOMY BY ABDOMINAL SECTION—RECOVERY.—F. B. Archer, of Barbadoes (*Lancet*, July 1), reports the following rare case:

M. E. A. L., a widow, aged 50, was admitted into the General Hospital, Bridgetown, Barbadoes, West Indies, on September 13, 1880, under my care. She had had five children. The menses stopped about eight years ago, soon after a fall which fractured one of the lower ribs on the right side. While ill in bed, suffering from this, she observed a lump about the size of her fist on the right side of the bowels. This lump has never disappeared, but has slowly grown to its present size. It has caused her no particular trouble, but she has lost flesh. Her appetite and general health are good. She has never been tapped. Ten months ago she was in this hospital, and an ovarian cyst was diagnosed, and an operation advised. This she declined, and returned home. She now begs to have something done. Urine contains a little albumen. On microscopical examination no casts are seen. Temperature normal.

On September 14 she was put under chloroform, and then ether substituted. Under a spray of carbolic acid an incision was made and a good many adhesions broken down. The cyst seemed matted to the right kidney, and on attempting to clear it the weight of the cyst tore the kidney, and considerable hemorrhage occurred. A clamp was put on, a ligature applied, and the kidney and tumor removed. It contained eighteen pints of fluid, and the cyst itself weighed five pounds. The patient was now in a great state of collapse. A drainage-tube was inserted, and the wound closed. She vomited five times after the operation, complained of great shortness of breath and pain in the head. An ice-cap was applied, which relieved her much. Temperature 99.8°. Allowed ice to suck.—15th: Slept at intervals during the night. A catheter was passed, and one ounce of bloody urine was drawn off. A nutrient enema was administered at 1 A.M. She complained of shortness of breath and pain in the bowels. At 1.30 P.M. she vomited. At 2 P.M. the dressing was changed under the spray. Temperature 101.4°. The catheter passed urine the natural color. A nutrient enema was given every sixth hour. At 9 P.M. the temperature was 100.8°; pulse 112.—16th: The patient had a good night. A catheter was passed every sixth hour. She was allowed a little iced milk and brandy at intervals. She complained of great pain in the abdomen. One-third of a grain of morphia was given hypodermically. The dressing was changed. The bowels acted naturally at 5.30 P.M. There was no vomiting. She still complained of pain in the abdomen. The temperature was 100.8°.—17th: The patient had a good night, and

at 6 A.M. enjoyed a cup of tea. The wound was dressed, and the bowels acted. The temperature rose to 101.8°, but dropped again to 100°.—18th: She had a good night. The pain in the bowels was less. The catheter was discontinued, also nutrient enemata. She took milk and beef-tea regularly. The wound was dressed, and the drainage-tube removed.—20th: The patient continued to sleep well; felt better, and took nourishment well. The temperature ranged between 100° and 101°.—21st: The wound was dressed, and three sutures removed.—23d: She was free from pain; bowels acted yesterday and today; getting on well.—25th: Remaining sutures removed. Urine examined, not albuminous.—26th: She was allowed boiled eggs for breakfast and fish for dinner. Perspired very freely. A mixture, containing quinine and tincture of perchloride of iron, was ordered to be taken three times a day.—28th: She was lifted out of bed for it to be changed. She felt stronger; ate and slept well.

December 1: Patient doing well.—5th: Anæmic, so the iron mixture was still continued. Complained of great pain in the bowels.—6th: Temperature 102.4°. Aconite in drop doses given every hour.—7th: Temperature 100°. Felt much better.—12th: Wound quite healed.—27th: Was troubled with a little cough, and the temperature ranged between 100° and 101°, occasionally rising to 102°.

December 11: A mixture containing tincture of ipecacuanha, syrup of wild cherry bark, and compound tincture of camphor was ordered to be taken every fourth hour.—25th: Cough did not improve, so the mixture was changed to hypophosphate of soda, 160 grains; dilute phosphoric acid, 4 drachms; glycerin, 1 ounce; compound tincture of cinchona, 1 ounce, to infusion of cascara, 8 ounces. Half an ounce to be taken three times a day. She took this regularly for one month, and rapidly improved. The cough disappeared, the temperature diminished, and she was soon able to walk.

January 9: The temperature had become normal, and remained so.

On March 14, 1881, she left the hospital quite well. By the last account she was enjoying good health.

Mr. Knowsley Thornton, through whom the notes are forwarded for publication, remarks that this is one of the best cases of nephrectomy yet published, due regard being paid to the quantity of fluid contained in the cyst, and the weight of the latter, the age of the patient being also taken into consideration. Convalescence, however, was very slow.

OCULAR SYMPTOMS IN TABES DORSALIS.—Dr. Sons has attempted to discover whether, given certain ocular symptoms, such as asthenopia, diplopia, ophthalmoplegia single or multiple, etc., it is possible to predict that the patient will become ataxic (*Jour. de Méd. de*

Bordeaux et de Paris). Such symptoms are either (1) dependent on changes in the optic nerve, or (2) produced by lesions of other nerves. Of the first class, those which are apt to end in ataxy are: (a.) Gradual loss of sharpness of vision down to total blindness, this being unattended with ophthalmoscopic symptoms. (b.) The diminution of the field advancing by sectors, vision being normal in the region unattacked. This may result at a certain stage in total blindness over the external half of the field. (c.) The disk preserves its form, but loses color, becoming chalky-gray under a strong light, bluish under a weak light; its contours are regular, but the vessels may ultimately disappear. (d.) The perception of color changes, especially as regards green and red. Of the second class, the following combinations are most characteristic: (a.) Transitory paralysis and spasms of the motor muscles, especially of those supplied by the third nerve: these may show themselves by transient strabismus or diplopia. (b.) Myosis; insensitiveness of the pupil to light; it does not dilate in darkness, but does when distant objects are looked at, and during attacks of lightning-pains. Many of these symptoms are found connected with disseminated sclerosis. Certainty can, of course, be reached only by watching the further progress of the case.

SCIATICA.—In a clinical lecture on "sciatica," Mr. Jonathan Hutchinson (*Med. Times and Gazette*) says, "In nineteen cases out of twenty in which the diagnosis of 'sciatica' is suggested, there is no affection of the sciatic nerve whatever. They are simply cases of arthritic disease of the hip in one or other of its various forms,—acute gout, chronic gout, rheumatic gout, subacute rheumatism, or chronic senile rheumatism. Both by the public and the profession these cases are constantly called 'sciatica.' Our workhouse infirmaries are full of chronic cases under that name, and I speak advisedly when I say I feel sure that they are almost all examples of *morbus coxae senilis*. Of the cases of 'sciatica' which are not hip-joint rheumatism, some are probably affections of the fascia or periosteum near to the hip; a minority are possibly affections of the sciatic nerve itself. In these latter it is the sheath of the nerve which becomes painful. The pain may be darting, or may radiate, but it does not pass down the nerve-tubules or in any way make the patient conscious of their course. The diagnosis of true sciatica is to be based upon the discovery of tenderness restricted to the trunk of the nerve and involving a considerable part of its course. Examples of this are decidedly rare, and their recognition without risk of error is a matter of great difficulty."

CURE OF VARICOCELE BY INTRAVENOUS INJECTION OF CHLORAL.—Dr. Angelo Negretto reports two cases of severe varicocele

which he successfully treated by Porta's method. The first (left side) had existed for over two years, and was as large as a pigeon's egg, the diameter increasing on effort to four and a half centimetres. It caused severe pain and partial atrophy of the testicle. Four injections, each of half a grammme, of choral hydrate were made with a Pravaz syringe at four several points into the covering of the varicocele. A slight grumous exudation from the punctures ensued, and on the following day some signs of orchitis. These were overcome by cold carbolized applications; and, as the upper part of the tumor seemed unaffected, three more injections were practised there. In six days the patient was well, and the varicocele gone. It has not reappeared since. The other case (also left) had existed five years, and was larger and harder than the foregoing, owing probably to repeated attacks of phlebitis in the varicose veins. A slight degree of inflammation along the spermatic cord existing, the patient was first treated with lead lotion. Five injections of chloral hydrate (half a grammme) were administered as before, resulting in great diminution of the tumor. In a week three more injections were given, and the result, with some slight intercurrent inflammation, was complete and permanent cure. The various methods of treating varicocele are so numerous and so little satisfactory in many cases that a new and hopeful one is by no means unwelcome. This of Porta is not widely enough known, though it has the decided merit of being less dangerous than many in current use.—*Gazzetta Medica Italiana: Practitioner.*

MATERNAL IMPRESSIONS AND ACEPHALOUS FÆTUS.—In the *Obstetric Gazette* for May, Dr. J. S. Haldemann, of Zanesville, Ohio, reports the following curious case:

"I was called to see Mrs. S., aged 45, living in the fourth ward, March 6, 1882, at eleven o'clock P.M., in her ninth confinement, who gave birth to twins, weighing, perhaps, 3½ pounds each: both females. One was deformed. The cranium was almost entirely absent, and there was a space of about half an inch above the eyebrows and ears. A thin, florid tunical covering enclosed the part where the cranium should have been. The ossa parietalia were wanting, and also fully the upper three-fourths of the os frontalis and occipitalis. The eyes were large, full and bright, nearly, if not altogether, the size of those of a full-grown person. The superciliary ridges were very prominent, and covered densely with brown hair. A space fully an inch wide existed between the supercilia, giving it very much the appearance of an owl's head.

"From the eyes down its formation was natural. The other child was very feeble, and survived but a very short time. The deformed one gave no signs of vitality at birth,

yet it appeared natural, having a smooth and white skin, and had no indications of decay. There was an extraordinary amount of liquor amnii. As a matter of course, I could not give the exact quantity. It saturated the bed-clothing (consisting of two comforts and one coverlet, each doubled, and one 'husk tick'), and ran through upon the floor, producing quite a stream. One of the ladies present declared that, in her judgment, it would have filled two ordinary wooden buckets, which would be about five gallons. When it occurred they could not divine what was 'up,' and wished to know of me if she did not have the dropsy !

"She stated to me that she went her full time, and I had no reason to doubt it. When I first mentioned the deformity to her (before she saw it), and asked her if she ever, during the period of gestation, had received a fright, she answered me emphatically 'no.' But when the child was shown to her, and she fully saw it, she exclaimed, 'Oh, those are the eyes and brows of my brother John!' Her brother John had been killed on the railroad, and brought home for interment. She was present, and saw him, when her second month of pregnancy had just passed. He was greatly disfigured, and his eyebrows and face were enormously swollen. She says she only got a view of his ghastly puffed eyebrows, when one of her sisters requested her to retire from before the coffin, which she instantly heeded.

"In my opinion it was then, and at the coffin, and from the sight of the disfigurement of her dead brother, that the foetal impression and consequent deformity was made, and the further cranial development suspended. In this case there can be no other visible cause assigned for it. Then does not this, with numerous other instances on record, satisfactorily remove from the medical mind the theory entertained and advocated by many, that such deformities are not thus brought about?"

THE ANTISEPTIC TREATMENT OF PHthisis PULMONALIS.—The *British Medical Journal* for July 1 contains a clinical lecture by J. Burney Yeo, M.D., on "The Antiseptic Treatment of Pulmonary Consumption," and three communications on similar topics,—one on "The Local Treatment of Phthisis by Carbolic Acid," by Robert Hamilton; one on "Observations on the Use of the Hypophosphites in the Treatment of Phthisis Pulmonalis," by John C. Thorowgood, M.D.; and one on "The Theory of Infection [in Phthisis], and its Influence on Treatment," by Dr. W. R. Thomas. In the lecture the use of a respirator, with antiseptic agents to medicate the air, in the essays carbolic acid, creasote, or tar, are equally attended with good results, while the hypophosphite of lime or soda in the second article gives also satisfactory results, but without local treatment. It is demonstrable that antiseptics are not necessary to

a cure, but the inference is warranted that a patient will have the best chance of recovery from a judicious combination of both local and general treatment. For inhalations, carbolic acid, creasote, spirits of turpentine, eucalyptol, thymol, terbene, camphor, fir-wood oil, solution of tar in spirits, tincture of benzoin, iodine, etc., have all been used. Where the cough is considerable and especially annoying at night, some spirit of chloroform may be added to the creasote or other agent, with benefit. Benzoate of soda spray has also been used with good results. Dr. Yeo, however, insists upon the importance, in addition, of selecting an elevated, healthy place of residence,—one, especially, not too crowded with other consumptives, nor where the patient will be confined much to the house with bad weather. The details of several very interesting cases are given by the lecturer, in which the local antiseptic treatment was efficient in securing improvement when combined with hygienic care and appropriate constitutional remedies, such as iron, quinine, cod-liver oil, and hypophosphite of lime. A form of respirator easily constructed and inexpensive is figured and described for continuous inhalation of the volatile substances already mentioned.

LAPAROTOMY FOR INTESTINAL OBSTRUCTION.—A young girl, 16 years of age, suffering with constipation, vomiting, and abdominal pain, after being dosed with purgatives by her mistress for three days, without result beyond increase of the symptoms, was seen by Dr. Jos. Bell (*Edinburgh Medical Journal* for July), who found these symptoms, but no special tenderness in flanks or abdomen; pulse and temperature both normal. Nothing was made out by abdominal manipulation except a small deep-seated point of extra resistance, about one and a half inches to the right of the mesial line of the abdomen, just below the level of the umbilicus. The diagnosis of intestinal obstruction was made, and opium treatment instituted, with ice and large enemata. Four days later, laparotomy was performed with antiseptic precautions, and an intussusception, a volvulus, and an incarceration of a loop of intestine by a tight band were successively found and released. The patient survived the operation only twelve hours. The case is interesting from the fact that the diagnosis was made during life, and laparotomy performed earlier might have averted the fatal result.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 9 TO JULY 22, 1882.

GREENLEAF, C. R., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding Officer, Columbus Barracks, O., for duty as post-surgeon at that post. S. O. 160, A. G. O., July 12, 1882.

FORWOOD, WM. H., MAJOR AND SURGEON.—To report in person to the Lieutenant-General at Fort Washakie, Wyoming, on or about July 23, 1882, for duty as surgeon and naturalist on the tour of inspection and exploration to be made by the Secretary of War and the Lieutenant-General. S. O. 70, Department of the Plate, July 6, 1882.

BROOKE, JOHN, CAPTAIN AND ASSISTANT-SURGEON.—Having reported at these headquarters, is assigned to duty as post-surgeon at Angel Island, California. S. O. 120, Military Division of the Pacific and Department of California, July 7, 1882.

CORSON, J. K., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 164, A. G. O., July 17, 1882.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from further duty in Department of the Plate, and to report by letter, at the expiration of his present sick leave of absence, to the Surgeon-General. S. O. 164, c. s., A. G. O.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Fort Grant, A.T., and assigned to duty at Fort Lowell, A.T. S. O. 106, Department of Arizona, July 3, 1882.

BYRNE, C. B., CAPTAIN AND ASSISTANT-SURGEON, FORT BARRANCAS, FLA.—Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months. S. O. 68, Department of the South, July 12, 1882.

HAVARD, VALERY, CAPTAIN AND ASSISTANT-SURGEON.—Relieved from temporary duty at these headquarters and at post of San Antonio, and assigned to duty as post-surgeon at Fort Duncan, Texas. S. O. 68, Department of Texas, July 5, 1882.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as post-surgeon at Fort Concho, Texas (Fort McKavett abandoned). S. O. 68, c. s., Department of Texas.

BARNETT, RICHARDS, CAPTAIN AND ASSISTANT-SURGEON.—To accompany the Brigadier-General commanding on his journey to Forts Bridger, Wyo., and Thornburgh, Utah. S. O. 70, Department of the Plate, July 6, 1882.

POWELL, J. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to the Commanding Officer, Fort Davis, Texas, for duty (Fort Stockton, Texas, abandoned). S. O. 68, c. s., Department of Texas.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Havard, to report to the Commanding Officer, Fort Brown, Texas, for duty. S. O. 68, c. s., Department of Texas.

HOPKINS, WM. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report by letter to the Commanding General, Department of the East, for assignment to temporary duty. S. O. 164, c. s., A. G. O.

MUNDAY, BENJ., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at Willet's Point, N.Y. S. O. 164, c. s., A. G. O.

BARROWS, CHAS. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to Commanding General, Department of Arizona, for assignment to duty. S. O. 164, c. s., A. G. O.

WILSON, GEO. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 164, c. s., A. G. O.

OWEN, WM. O., JR., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the Commanding General, Department of the Columbia, for assignment to duty. S. O. 164, c. s., A. G. O.

EGAN, PETER R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at the recruiting depot, David's Island, N.Y. S. O. 164, c. s., A. G. O.

WAKEMAN, WM. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—Assigned to temporary duty at Columbus Barracks, Ohio. S. O. 164, c. s., A. G. O.

EVERTS, EDWARD, FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to Commanding General, Department of the Columbia, October 1, 1882, for assignment to duty. S. O. 164, c. s., A. G. O.